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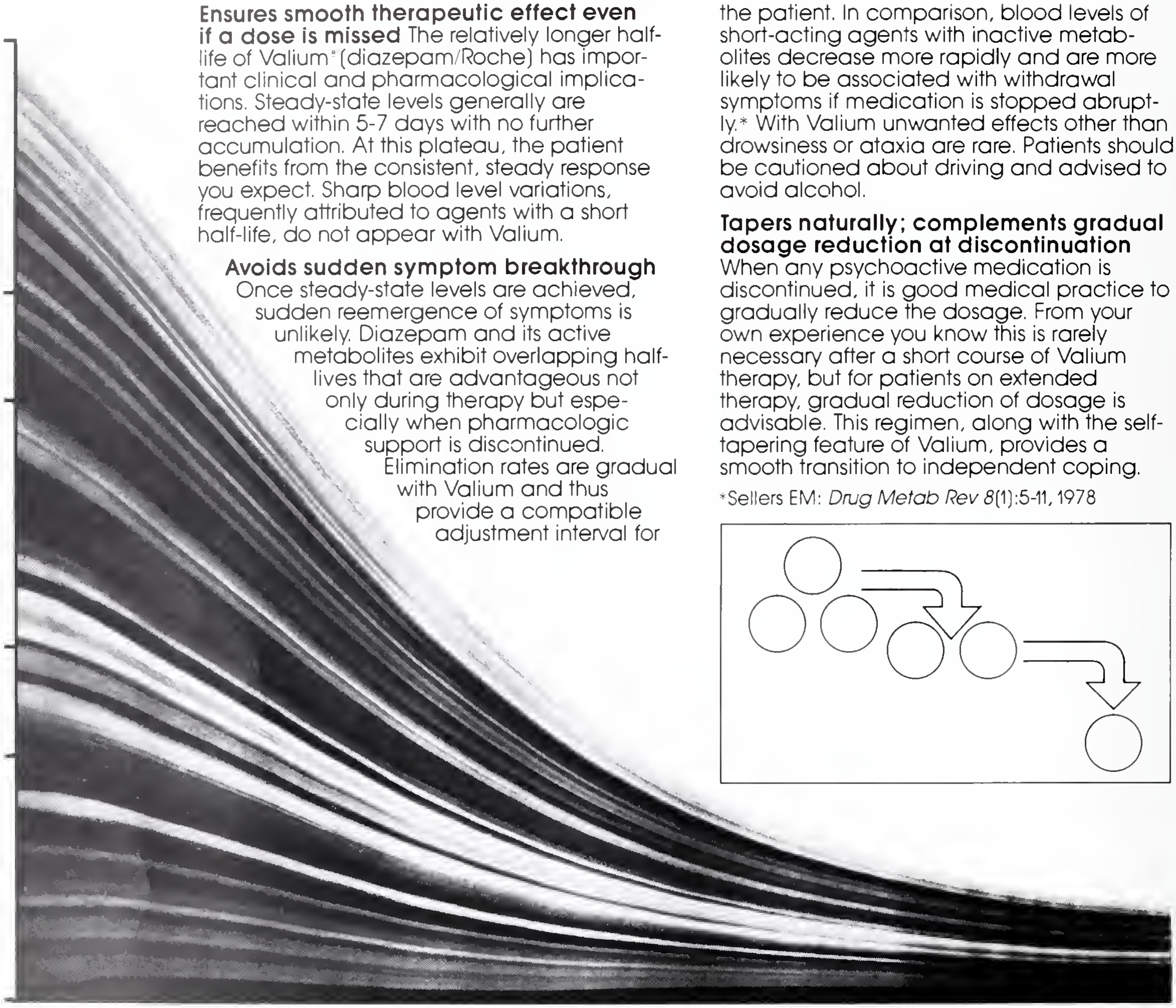
*Sellers EM: *Drug Metab Rev* 8(1):5-11, 1978



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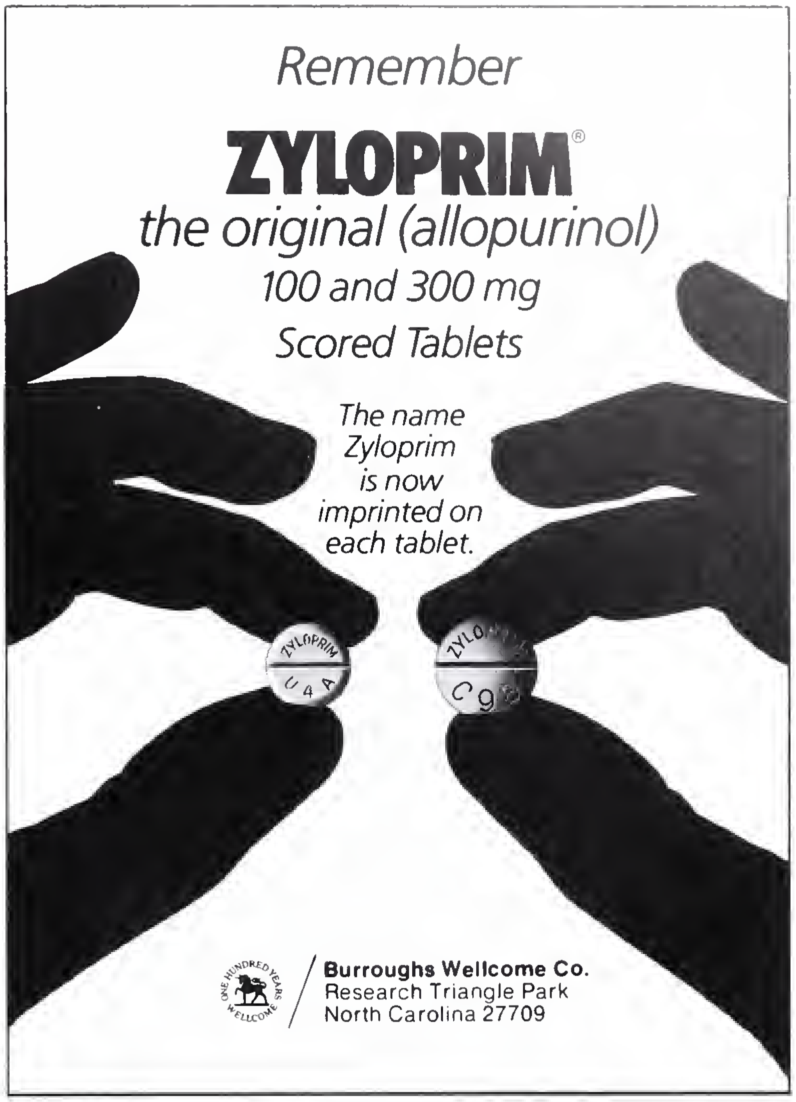

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ALASKA MEDICINE

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Volume 23 January/February 1981 Number 1

ORIGINAL ARTICLES

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About the Cover: *Humpback Whale Diving into Icy Bay, Prince William Sound* by Tim Samuelson, M.D., A.B.F.P.

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SHOCK COMPLICATING MYOCARDIAL INFARCTION

William P. Mayer, M.D.

George Rhyneer, M.D.

Despite improvements in diagnostic techniques, prehospital care and inhospital therapy, coronary artery disease and resulting myocardial infarction remain the most common cause of death in the United States and Western Europe. Inhospital mortality in particular has improved from 30% in the 1950's to approximately 10-15% in the 1970's. Most of this improvement has been credited to the early recognition and treatment of ischemia-induced arrythmias in the CCU setting.

With the virtual elimination of primary arrythmic deaths, most inhospital mortality is presently due to power failure, i.e. cardiogenic shock and pulmonary edema. Consequently, further attempts at increasing inhospital myocardial infarction survival must be directed at this problem. In this article we review the problem of shock in the patient with a myocardial infarction.

Shock From Left-Ventricular Infarction

With the onset of infarction, a portion of the left-ventricular muscle is deprived of its blood supply and almost immediately contraction of this segment ceases. Some portion of this ischemic segment is destined to be irreversibly damaged, i.e. infarct, while a surrounding area may eventually regain function as collateral flow develops.

In a small infarction without power failure, only a small percentage of the total left-ventricular muscle mass is compromised. If the ischemic and infarcted area involves approximately 25% of the total left ventricle, signs and symptoms of congestive heart failure generally appear. When the dysfunctional area involves 40% or more of the left ventricular, there is insufficient pumping muscle to sustain forward flow and cardiogenic shock ensues.

This mechanism, excessive left-ventricular damage, probably accounts for the majority of the patients with the shock syndrome in the setting of a myocardial infarction and until recently was almost uniformly fatal. However, there are other potentially treatable etiologies of shock in the myocardial infarction patient some of which carry a relatively favorable prognosis if appropriately treated. (Fig. 1) In general, invasive monitoring is required to define the clinical cause of the shock syndrome and guide further therapy.

Figure 1

Shock in the Myocardial Infarction Patient

A. Loss of Left Ventricular Mass
B. Right Ventricular Failure
C. Hypovolemic Shock
    1. Diuretics
    2. Redistribution
D. Vasodilatory Shock
E. Tamponade
    1. Rupture
    2. Dresslers
F. Surgically "Correctable" Conditions
    1. Acute Mitral Regurgitation - usually with

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Inferior Myocardial Infarction

2. Acute Ventricular Septal Defect

G. Arrhythmias

H. Not Immune to Other Causes-Sepsis, Gastrointestinal Bleeding, Drugs

Loss of Excessive Left Ventricular Musculature

This is probably the most common cause of the shock syndrome in the myocardial infarction patient. The diagnosis is made by excluding the other mechanisms listed below but can be confirmed by blood-pool scanning or left ventricular angiography which reveals a low ejection fraction. It is most commonly seen in the patient with a large anterior infarction or in the patient with recurrent infarction.

There is nothing specific in the hemodynamic evaluation which reveals an elevated pulmonary artery wedge (PAW) pressure and a low cardiac output.

Until recently this syndrome has been almost uniformly fatal. However, since 1973 many groups have reported 30-50% hospital survival with the use of vasodilators such as Nitroprusside combined with intra-aortic balloon pumping and emergent cardiac surgery. Long-term survival may be as high as 25% with surprisingly good functional recovery.

Shock From Right Ventricular Infarction

It has become evident over the past decade that the right ventricle may be involved in the infarction process.

In autopsy series as many as 40% of fatal inferior myocardial infarctions show evidence of right ventricular infarction. However, the clinical syndrome of cardiogenic shock secondary to right ventricular infarction and dysfunction is uncommon.

The problem here is that the right ventricle is damaged and unable to pump blood to the "starved" left ventricle. This problem is seen exclusively in the setting of an inferior myocardial infarction and is suggested clinically by the finding of elevated neck veins and relatively clear lungs. The diagnosis is made by the Swan-Ganz catheter which reveals an elevated right atrial pressure with a normal or low pulmonary artery wedge pressure. Blood-pool scanning or echocardiography may confirm the diagnosis by revealing a large, poorly contracting right ventricle with a normally functioning left ventricle.

This problem is treated with vigorous fluid therapy to "force" blood through the poorly functioning right ventricle to the underfilled left ventricle.

About 50% of such patients survive generally with good functional recovery.

Hypovolemic Shock

With the onset of infarction the left ventricle stiffens, becoming less distensible and therefore requiring a higher distending pressure to fill it adequately. If the central blood volume is insufficient to meet this requirement, cardiac output will fall and shock may ensue.

This problem is seen most commonly in the myocardial infarction patient who received diuretics for presumed congestive heart failure but may also develop in the absence of such therapy.

The problem is suggested by the finding of clear lungs and flat neck veins and is confirmed by the Swan-Ganz catheter which reveals low right atrial and pulmonary artery wedge pressures and low cardiac output.

Therapy involves cautious volume expansion to increase the pulmonary artery wedge pressure until shock resolves or the pulmonary artery wedge increases to approximately 18 mm Hg. The prognosis in this form of shock is relatively good.

Vasodilation Causing Shock in the Myocardial Infraction Patient

This form of shock is caused by excessive vasodilatation in the presence of a normal cardiac output and is most frequently secondary to sepsis, A-V fistula or vitamin deficiency. We have recently seen this condition in a patient with an anterior myocardial infarction in whom other known causes of high output shock were eliminated and who responded to intra-aortic balloon pumping with resolution of his shock syndrome.

Although a vasodilatory reflex has been described in animals with experimental anterior myocardial infarctions, to our knowledge, this has not been previously appreciated in humans.

The diagnosis is made by the Swan-Ganz catherter which reveals a normal or high cardiac output in the presence of clinical shock and the elimination of other known causes of systemic vasodilation.

Treatment has not been defined in this setting. However, vasoconstriction with Levophed to support a blood pressure of 90 systolic is reasonable. If this is insufficient, the patient may respond to intra-aortic balloon pumping with resolution of the hemodynamic abnormality as seen in our patient.

Cardiac Tamponade Causing Shock in the Myocardial Infarction Patient

Cardiac tamponade is an uncommon but potentially treatable cause of shock in the myocardial infarction patient. There are two mechanisms which may result in this problem: Left ventricular rupture and Dressler's Syndrome.

The former is generally seen in the hypertensive patient with an anterior myocardial infarction and may be suggested by a two-dimensional echocardiogram revealing thinning of the infarcted segment. The latter is almost exclusively seen in the anticoagulated paitent with Dressler's Syndrome.

Left ventricular rapture is suggested by the finding of elevated neck veins, a paradoxical pulse and relatively clear lungs. Echocardiography is helpful and the pulmonary artery catherter diagnostic revealing equalization of diastolic pressures.

Therapy involves pericardiocentesis or possibly cardiac surgery.

Surgically "Correctable" Conditions Causing Shock in Myocardial Infarction Patients

Mitral regurgitation in the setting of the myocardial infarction patient is due to papillary muscle dysfunction or actual rupture leading to loss of structutal support of the mitral apparatus. As a cause of cardiogenic shock it is uncommon, occurring in perhaps 0.5 - 1.0% of myocardial infarction patients and more frequently in those with inferior myocardial infarctions.

The condition is suggested by the patient with cardiogenic shock or pulmonary edema who demonstrates a new apical systolic murmur. However, in some cases no murmur is noted.

The echocardiogram may be helpful in revealing a flail mitral leaflet. The finding of an elevated pulmonary artery wedge pressure with large "V" waves is suggestive. The diagnosis is confirmed by left ventricular angiography.

Treatment includes afterload reduction with nitroprusside or the intra-aortic balloon pump with subsequent mitral valve replacement or repair.

Approximately 50% survival has been reported, many times with good functional recovery.

Ventricular septal defect developing in the myocardial infarction patient is due to rupture of the infarcted intracentricular septum and usually results in cardiogenic shock or pulmonary edema. Previous reports suggested that this condition was seen almost exclusively in anterior myocardial infarction. However, recent series suggest that it is evenly divided between anterior and inferior infarctions.

The problem is suggested by the finding of a systolic murmur at the left sternal border sometimes with an associated thrill.

The Swan-Ganz catherter supports the diagnosis by revealing an oxygen saturation set up in the right ventricle, i.e., increased 02 saturation in the right ventricle as compared to the right atrium. Left ventricular angiography is definitive.

Treatment includes vasodilatation with nitroprusside and if unsuccessful, use of the intra-aortic balloon pump. Surgery is generally required but there is controversy as to whether this should be performed immediately or delayed 4-6 weeks to allow for fibrous ingrowth. Survival of 50% has been described.

Arrythmias

In the normal person, cardiac output is relatively constant within a wide range of heart rates. However, in the myocardial infarction patient, cardiac output may be very rate-dependent falling off rapidly on either side of some optimum level.

Bradyarrythmias lower cardiac output by decreasing the number of ejections per minute and also by exerting a negative inotropic effect. Correction of the bradycardia with atropine, isuprel or a temporary pacemaker may be all that is required to reverse the shock syndrome in this setting.

Cardiac output also falls with excessive tachycardia due to inadequate filling time and tachycardia induced ischemia which requires therapy before other causes of shock are explored.

Loss of atrial contribution due to atrial fibrillation or A-V dissociation may tip a myocardial infarction patient into cardiogenic shock and should be treated first before other forms of therapy are employed.

Miscellaneous Causes

It should be remembered that the myocardial infarction patient is subject to the same range of diseases as the non-cardiac patient.

Shock is occasionally seen secondary to sepsis from intravenous catherters, gastrointestinal bleeding secondary to stress or anticoagulant therapy or occasionally as a reaction to cardiac medications - nitroglycerin, morphine, etc.

Conclusions

With this summary as a background, a rational approach to the myocardial infarction patient with clinical shock can be developed.

If the cause of shock is not immediately evident - arrythmia, medication reaction, gastrointestinal bleeding - then invasive monitoring with a pulmonary artery catheter is generally required to define the cause and guide therapy.

In areas where such monitoring is not available, blood pressure should be maintained with dopamine or dobutamine while arrangements are made for transportation to a referral center. Empirical fluid therapy is controversial in the absence of pulmonary artery monitoring but may be tried in the absence of pulmonary congestion.

With this type of approach, it has been the published and our experience that a significant percentage of these patients may survive and return to a productive life.

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Limbitrol® Ⓒ IV

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline
(as the hydrochloride salt)
Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline
(as the hydrochloride salt)

Efficacy without a phenothiazine

Please see summary of product information on following page.

LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved Contraindicated during acute recovery phase following myocardial infarction

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses Myocardial infarction and stroke reported with use of this class of drugs) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e g , operating machinery, driving)

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide)

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy

Limbitrol should not be taken during the nursing period Not recommended in children under 12 In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects

Adverse Reactions: Most frequently reported are those associated with either component alone drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs

Cardiovascular Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke

Psychiatric Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

Neurologic Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

Hematologic Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

Endocrine Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels

Other. Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

Overdosage: Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment

Dosage: Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single h s dose may suffice for some patients Lower dosages are recommended for the elderly

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required Limbitrol 5-12 5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12 5 mg amitriptyline (as the hydrochloride salt) – bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50

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How to initiate and maintain therapy

Select dosage strength appropriate for each patient

☐ Limbitrol 5-12.5 is recommended to minimize drowsiness and for elderly patients
☐ Limbitrol 10-25 may be indicated for patients who tolerate medication without undue side effects

Specify daily dosage based on symptom severity

☐ An initial dosage of three tablets is recommended
☐ Dosage may be increased to six tablets or decreased to two tablets daily as necessary
☐ Once a satisfactory response is obtained, patients should be continued on the smallest dose required to maintain the desired effect

Utilize dosage options to best accommodate individual patient needs

☐ T.I.D. or Q.I.D., familiar regimens most suited for patients who tolerate medication without undue drowsiness
☐ Two tablets one hour before bedtime and one tablet midday may minimize daytime drowsiness and help relieve a common target symptom — insomnia
☐ Entire dosage h.s. to take maximum advantage of the sedative effect

Your guide to patient management... when you decide medication is needed

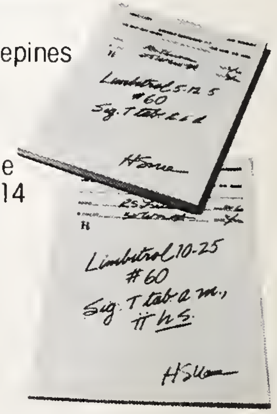
How to make each patient an informed patient

1. Discuss with patients the probability that they will experience drowsiness, especially during the first week.
2. Reassure your patients that drowsiness is one indication that the medication is working and that it may help alleviate their insomnia.
3. Encourage patients to report if drowsiness becomes troublesome so that, if necessary, dosage schedule can be adjusted.
4. Caution patients about the combined effects with alcohol or other CNS depressants. Let them know that the additive effects may produce a harmful level of sedation and CNS depression.
5. Caution patients about activities requiring complete mental alertness, such as operating machinery or driving a car.
6. Warn pregnant patients and patients of childbearing age that the safety of Limbitrol in pregnancy has not yet been established.

Please see complete product disclosure for other pertinent information.

Limbitrol should not be used under the following circumstances:

1. Hypersensitivity to benzodiazepines or tricyclic antidepressants.
2. Concomitantly with an MAO inhibitor. To replace an MAO inhibitor with Limbitrol, discontinue MAO inhibitor for a minimum of 14 days before cautiously initiating Limbitrol therapy.
3. During the acute recovery phase following myocardial infarction.



In moderate depression and anxiety

Limbitrol® Ⓘⓥ

Relief without a phenothiazine

NEONATAL INTENSIVE CARE IN ALASKA: THE CHANGING OUTLOOK

Jack Jacob, M.D.
Carla Logan, RN, PNC

In 1971 the Alaska Newborn Care Project was initiated for the purpose of improving perinatal outcome in the State of Alaska. A major component of the project was the establishment of a tertiary care referral center for sick neonates located at the Newborn Special Care Nursery (NSCN) in Providence Hospital. In addition to caring for sick neonates the project also initiated the Newborn Transport Team for transporting sick neonates from outlying hospitals to a higher level health care facility.

This manuscript represents an analysis of the results of intensive care as provided by the NSCN between July 1979 and June 1980. It is the first in what is hoped to be a continuing series examining neonatal intensive care in Alaska and comparing these results to other tertiary care centers in the United States.

Methods

Current records are kept of admissions and transports to the NSCN. These results are retrospectively reviewed and analyzed. Statistical comparisons of mortality rates are performed using the chi-square analysis.

Results

Table I summarizes demographic data relating to age of admission, race, sex and gestational age of the infants admitted to the NSCN.

Table II and III summarize mortality rates

TABLE 1

DEMOGRAPHIC DATA

ADMISSIONS TO NSCN, PROVIDENCE HOSPITAL JULY 1979 TO JUNE 1980

Gestational age (weeks)

< 28	28-32	33-36	37-42	> 42
3.9%	12.5%	36.2%	46.6%	0.8%

Age at admission:

< 24 hr	1-6 days	7-27 days	28 days-1 yr
81%	7.3%	5.2%	6.5%

Race:

White	Black	Native	Other
83.6%	5.6%	8.2%	2.6%

Sex:

Male	Female
57%	43%

TABLE 2

MORTALITY BY BIRTHWEIGHT*

Birthweight (gm)	Number of Patients (%)	Mortality (%)
≤ 750	6 (2.7)	4 (66)
751-1000	12 (5.5)	9 (75)
1001-1500	14 (6.5)	5 (36)
1501-2000	33 (15.2)	2 (6)
2001-2500	53 (24.4)	0 (0)
2501-4000	83 (38.2)	9 (11)
> 4000	16 (7.4)	2 (13)
Total	217 (100)	31 (14)

*excludes 15 non-neonatal admissions

Jack Jacob, M.D. is Clinical Director of the Alaska Newborn Care Project and the Providence Hospital Newborn Special Care Nursery.

Carla Logan, RN, PNC is a Clinical Specialist at the Newborn Special Care Nursery.

TABLE III

MORTALITY BY GESTATIONAL AGE*

Gestational age (weeks)	Number of patients (%)	Mortality (%)
< 28	12 (6)	9 (75)
28-32	29 (13)	8 (28)
33-36	85 (39)	5 (6)
37-42	89 (41)	9 (10)
> 42	2 (1)	0 (0)
Total	217 (100)	31 (14)

*excludes 15 non-neonatal admissions

by birthweight and gestational age. Mortality rates for both the very low birthweight (VLBW) infant (< 1500 grams) and the severe premature infant (gestational age < 28 weeks) are high while mortality for those weighing 1501-2500 grams is low.

Table IV compares according to birthweight the mortality rates of inborn versus transported neonates. Comparison within birthweight categories is difficult because of the small number of patients. The overall transport mortality rate is 22 percent compared to the inborn mortality rate of 11 percent. There is no difference between inborn and transported VLBW babies (50% vs 60% mortality respectively, p = NS). A higher mortality rate of transported babies > 1500 grams would be expected since it is only the sickest babies in this category who are transported to a tertiary care center.

TABLE IV

COMPARISON OF TRANSPORTED VS INBORN MORTALITY BY BIRTHWEIGHT

Birthweight (gm)	Inborn mortality (%)	Transport mortality (%)
≤ 750	3/4 (75)	1/2 (50)
751-1001	4/7 (57)	5/5 (100)
1001-1500	5/9 (56)	0/5 (0)
1501-2000	0/20 (0)	2/13 (15)
2001-2500	0/40 (0)	0/13 (0)
2501-4000	6/65 (9)	3/18 (17)
> 4000	0/14 (0)	2/2 (100)
Total	18/159 (11)	13/58 (22)

Table V summarizes according to birthweight categories the mortality rates of neonates receiving mechanical ventilation (MV). The mortality rate, as expected, among VLBW babies is high (63%) compared with an 18 percent mortality for infants weighing 1501 to 2500 grams. Surprisingly, the mortality rates of neonates>2500 grams is exceedingly high (79%). An analysis of these patients reveals that two-thirds of the deaths were associated with perinatal asphyxia, meconium aspiration and/or birth trauma. Only one death was associated with a lethal congenital defect.

TABLE V

SURVIVORS OF MECHANICAL VENTILATION (MV) BY BIRTHWEIGHT**

Birthweight (gm)	Number on MV (%)**	Number of MV survivors (%)
≤750	6 (100)	2 (33)
751-1000	11 (92)	3 (27)
1001-1500	10 (71)	5 (50)
1501-2000	5 (15)	4 (80)
2001-2500	12 (23)	10 (83)
2501-4000	12 (14)	3 (25)
>4000	2 (12)	0 (0)
Total	58 (27)	27 (47)

*excludes non-neonates
**percent of total admissions in the respective weight category on MV

Table VI compares mortality rates for different categories of patients during two different time periods. The major difference in neonatal care during these periods was the arrival of a neonatologist, the principal author, with the Alaska Newborn Care Project in February 1980. Results show a significant decrease in mortality for all Providence Hospital births, Providence Hospital births > 750 grams and all babies receiving MV. However, there has been no decline in the mortality of transported babies. Although there is a trend suggesting a decrease in mortality of transported neonates receiving MV, numbers are too small to reach levels of significance.

Excluding those with lethal congenital anomalies, infants weighing 700-1500 grams admitted from February to August 1980 were studied according to place of birth in an attempt to explain the preventable but continued high mortality rate of VLBW babies. Of 10 babies born at a tertiary care center (9 at Providence Hospital, 1 at Seattle) mortality rate was 20 percent. Four of these were high-risk maternal referrals to the tertiary care center. The mortality rate for transported infants during this time was 64 percent. The lower mortality rate for the VLBW infants born at a tertiary care center was evident despite their lower birthweight (mean 1024 grams vs 1163 grams for transports).

Discussion

Regionalization of neonatal care has been shown to be effective in reducing neonatal and mortality. Essential components of this system are a regional newborn intensive care unit which provides tertiary level care for all infants born within a given geographic area and an organized transport service to move the

TABLE VI

COMPARISON OF MORTALITY RATES DURING TWO DIFFERENT TIME PERIODS

Category	Mortality		Level of Significance
	July 1979 to Jan. 1980	Feb. 1980 to June 1980	
Providence Hospital births	11.7/1000	6.3/1000	$p < 0.05$
Providence Hospital births ($\geq$ 750 gm)	10.8/1000	2.5/1000	$p < 0.05$
Babies receiving MV	20/31 (65%)	11/28 (39%)	$p = 0.05$
Transported neonates	6/28 (21%)	7/27 (26%)	p = N.S.*
Transported neonates receiving MV	6/10 (60%)	6/18 (33%)	p = N.S.

*not signficant

newborn from hospital of birth to the regional center. Such a regionalized system has been in existence in Alaska since 1973 with the Newborn Special Care Nursery at Providence Hospital in Anchorage as the designated tertiary level care center for the State. Although some neonates requiring tertiary care are still cared for elsewhere, most critically ill neonates are either born at or transported to Providence Hospital. Neonates requiring further specialized care, such as those with congenital heart disease, are in turn referred to the regional center in Seattle.

Analysis of the neonatal mortality rates for the NSCN, in general, appear to be comparable to those reported elsewhere. The overall survival rate of 85% compares favorably with those reported by Kopelman. This result, however, is difficult to interpret meaningfully since outcomes are highly dependent on the types of patients admitted and the severity of their disease. A closer examination of the results show two areas where survival rates are lower than expected. These are as follows: (1) the VLBW infant (birthweight $\leq$ 1500 grams) and (2) all neonates requiring mechanical ventilation especially those weighing $>$ 2500 grams.

The VLBW infant has had an improving outlook over the last several years. An exception to this is the baby weighing $<$ 750 grams at birth whose outcome continues to be poor despite modern perinatal management. Hack et al reported a 57 percent survival for babies weighing 751 to 1000 grams at birth and a 81 percent survival for those weighing 1001 to 1500 grams. These results suggest that babies weighing $\geq$ 750 grams at birth should be considered viable. Our overall survival of 44 percent for VLBW babies does not reflect the reported improving outlook for these infants. However, results for babies $>$ 1500 grams (93% survival) compare favorable with other tertiary care centers.

An important aspect of tertiary neonatal care is support for neonates in respiratory failure. Thus, an important index of the technical skill of a tertiary care unit is the outcome of babies receiving mechanical ventilation. Table V shows a surprisingly high mortality rate for infants receiving mechanical ventilation in all birthweight catergories except 1501-2500 grams. The high mortality rate for babies $<$ 1500 grams receiving MV generally reflect the overall poor prognosis of these infants. Analysis of the surprisingly large number of deaths for babies $>$ 2500 grams reveals that two-thirds of these were associated with perinatal asphyxia, meconium aspiration and/or birth trauma, all potentially preventable deaths. Lethal congenital anomalies have played a relatively minor role in these poor outcomes.

What has been the impact of the availability of specialized neonatal care? An analysis of results of tertiary care from February to August 1980 reveals areas where improvements have been made in neonatal mortality and areas of continuing problems. During this time period there has been a significant increase in the overall survival of babies born at Providence Hospital and those receiving mechanical ventilation. During this time period there have been only two inborn neonatal deaths in babies $\geq$ 750 grams birthweight; one of these infants had a lethal chromosomal abnormality. The primary role of improved obstetrical care within the tertiary center is suggested by the fact that perinatal asphyxia, meconium aspiration and birth trauma are no longer a significant cause of morbidity in the NSCN. The increase in survival for babies receiving mechanical ventilation is also partially accounted for by the decreased number of such infants requiring mechanical ventilation.

A continuing area of major concern is suggested by comparing the outcome of inborn and transported babies. If one excludes lethal anomalies, the survival rate for inborn babies between 700 and 1500 grams is 80 percent. The survival for transported babies within the same weight group is only 36 percent. Furthermore, the transported mortality for these infants underestimates their mortality since the sick VLBW infant is most likely to die at the outlying hospital.

There are several solutions to improving the survival of the VLBW infant. As part of the Alaska Newborn Care Project there presently exists an outreach education program aimed, in part, at improving the stabilization of the sick neonate. An acceleration of such a program, including funding to bring nurses and physicians to the tertiary care center at Providence Hospital for hands-on education, is planned as part of an "Improved Pregnancy Outcome" grant. Although this is, and will continue to be, a necessary ingredient in improving perinatal outcome it has major limitations because of rapid turnover of medical personnel and the small number of births at many "bush" hospitals.

In addition there have been recent improvements in the Alaska Newborn Project Neonatal Transport Team with the addition of a Neonatal Nurse Practioner and the training of several Neonatal Nurse Clinicians. Thus, for the first time the Transport Team has the ability to completely stabilize a critically ill neonate and to make decisions, with the back-up of a neonatologist, about major theraputic interventions such as the initation of mechanical ventilation, placement of umbilical catheterization, evacuation of pneumothoraces, etc. The upgrading of the Neonatal Transport Team, coupled with continued poor outcomes, provide increasing justification for limiting the transport of high-risk neonates to the specialized transport team.

An additional approach to this problem is to initiate a neonatal transport prior to the imminent delivery of a VLBW infant ($\leq$ 32 weeks gestation, $\leq$ 1500 gram birthweight). Since it takes approximately 1½ hours after receiving a transport request to initiate an air transport and an hour prior to arrival for a ground transport within the city of Anchorage, considerable time may be saved by initiating a potential transport prior to delivery. Within the city of Anchorage it may be possible to have the transport team at the delivery of such an infant. Such a transport, once initiated, need not necessarily result in the return of a baby to the tertiary level center if the neonate is felt not to need that level of care. In the long-run the cost of such 'wasted' transports may compare quite favorably to the 'wasted' cost of transporting neonates with a greater than 60 percent mortality.

In light of the improved prognosis for inborn VLBW infants the solution that holds the greatest promise of success is that of maternal in-utero transport. Although this is a newly evolving concept in perinatal medicine, high-risk maternal referrals already occur in Alaska in several health care delivery systems. However, neither emergent maternal transports nor maternal referrals from a secondary to a tertiary care center have occurred with any degree of frequency.

Common sense tends to support the idea that a high-risk mother should deliver at a tertiary level center where specialized neonatal care is available. Maternal transport has the advantage of being easier and less costly than neonatal transport and allows for closer maternal-infant contact and bonding. It is also likely that the cost for the care of a neonate delivered after maternal transport is less since some premature labors are successfully stopped and carried to term or near term and since morbidity is lower in these neonates. Furthermore, data from the Arizona High-Risk Maternal Transport System demonstrates that it is the VLBW infant who benefits most from in-utero transport and birth at a perinatal center rather than birth at an outlying hospital and transport as a newborn to a regional center. In addition, in-utero transport may become feasible and safer with the increased use of effective tocolytic agents to "buy time." These numerous advantages make in-utero maternal transports a likely candidate for making a significant impact on perinatal outcome in Alaska beyond that of neonatal transport coupled with tertiary neonatal care. The likelihood is that such a system will be the most effective in reversing the trend of poor outcomes for the VLBW infant.

Such a maternal transport system is planned for Alaska through the "Improved Pregnancy Outcome" Grant and should be functional within a year. Its success will depend greatly upon the rethinking of traditional concepts of regionalized neonatal care by medical providers and the cooperation between various health care delivery systems and providers within Alaska.

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RESULTS OF A SURGICAL, OTOLOGIC PROGRAM IN A REMOTE ESKIMO POPULATION

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Leon Chandler, M.D.
Stephen Springer

Introduction

Numerous reports have established that the Alaskan, Canadian and Greenland Native peoples have an increased incidence of chronic otitis media because of a number of environmental and epidemilogic factors.[1-14,18] This high incidence of destructive disease has been reduced because of improved acute health care systems, environmental systems and health education of the Eskimo population.[11,12,17,22] However, a large number of these Eskimo people with chronic ear disease have conditions which are surgically correctable. The problems of delivering effective surgical otologic services to people in remote areas has been troublesome.[15-20, 22]

As the reports regarding surgical care in Alaska are studied, several significant things are noteworthy. First, otitic brain abscess and meningitis were eliminated as the back-log of persons with chronic otitis and cholesteatoma were given priority treatment during the years 1963 to 1970. This disease complex, occurring six to eight times per year in the Alaska Medical Service Unit Health Care area, was virtually eliminated by 1970. Secondly, as surgical programs progressed, tympanoplasty and mastoidectomy techniques were developed which increased success rates and reduced complications in this type of otologic survey.[15,17,23,24] Thirdly, tympanoplasty surgery proved beneficial in the Native population which had to be moved from remote villages by air to and from the surgical service centers in Anchorage and Sitka.

Transportation at times required three different air carriers and always involved considerable time and expense. In addition, the trauma of middle ear pressure change presented a significant challenge to the fresh tympanoplasty grafts. During the extended flights, control of pressure change was impossible. Therefore, those patients, who had to travel following surgery, had to have well healed grafts or graft failures would occur. Often patients were held in centers for three to four weeks following surgery increasing expense as well as losing time from school and work.

Finally in 1971, decentralized surgical otologic clinics were begun in remote hospitals. Data collection of these clinics has not been well tabulated so the success rates have not been documented. This paper reports the results of an otolaryngological surgical clinic in a remote area with a western Alaskan Eskimo population.

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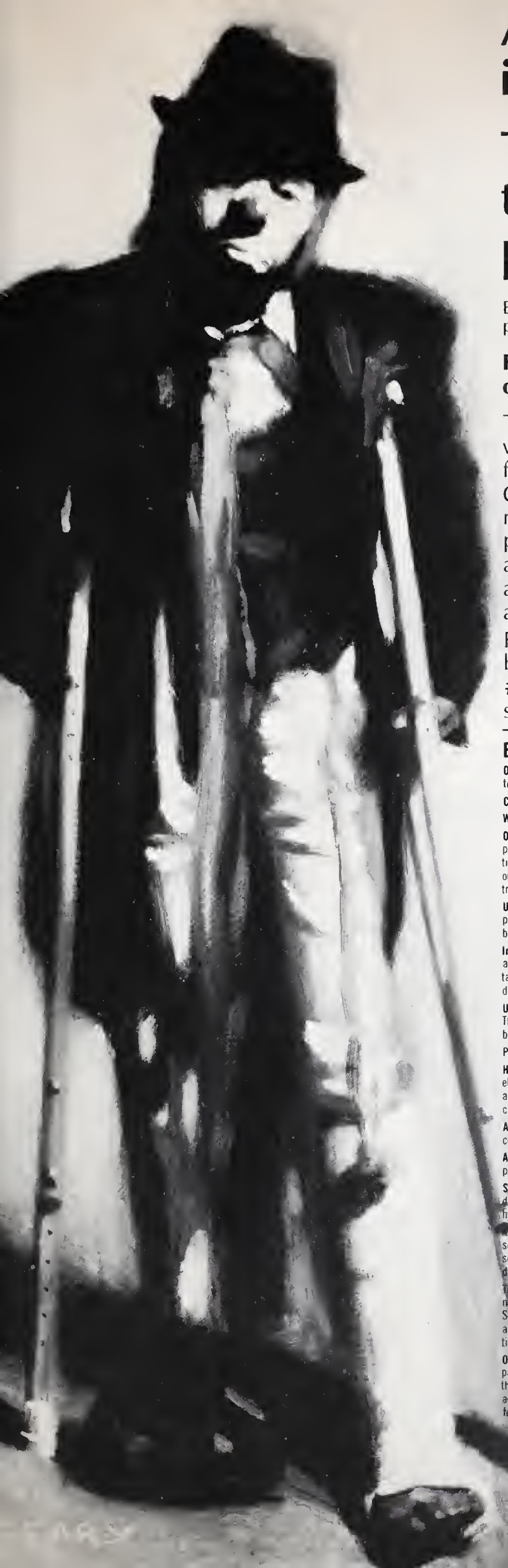

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WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies: patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

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Librax®

Please consult complete prescribing information, a summary of which follows:

* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression: suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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In four special surgical clinics held at the Norton Sound Regional Hospital in Nome during 1978 and 1979, two hundred fifty-eight patients from fifteen surrounding villages and Nome received ear, nose and throat surgical services. One hundred and thirty-two patients had one hundred forty-two major ear procedures performed. Of these procedures, there were eighty Type 1 tympanoplasties, thirty-four complex mastoid tympanoplasties, eighteen radical mastoidectomies, seven complex Type 11 or greater tympanoplasties and three stapedectomies. (See Table 1) Other procedures carried out were: tonsillo-adenoidectomy, myringotomy and tubes, caldwell luc, vidian neurectomy, parotidectomy, thyroglossal cyst removal and nasal columella reconstruction.

Table 1

Surgical Success Rates Between Maximum Follow-Up Group 1
And Minimal Follow-Up Group 2

Group 1

Operation	Success	Failure	Total	Percent Success
Tonsilloadenoidectomy			53	
Tympanoplasty	55	12	67	82%
Mastoid-Tympanoplasty	27	1	28	96%
Mastoidectomy	16	1	17	94%
Complex Tympanoplasty	5	2	7	71%
Stapedectomy	3		3	100%
Myringotomy & Tubes			60	
Group 2				
Tympanoplasty	9	4	14	64%
Mastoid Tympanoplasty	4	2	6	66%
Mastoidectomy		1	1	0%
Complex Tympanoplasty	0	0		
Stapedectomy	0	0		
Myringotomy & Tubes	8		8	

The patients were identified in village screening clinics conducted by public health nurses, in regional screening clinics conducted by an otolaryngologist and by referrals from clinic doctors or nurses.

The patients were transported to Nome from their villages for a pre-operative evaluation. Surgical diagnosis was established through a physical examination by the surgeon with audiologic data collected at that time. Surgery and immediate post-operative care was performed on an out-patient basis with the patients being placed in boarding homes. The patients made daily post-operative visits to the clinic. After dressings had been removed, the tympanoplasty patients were sent home three to five days following surgery. Pilots were instructed to fly utilizing low altitude with gentle climb and glide patterns to reduce pressure changes as much as possible.

Patients who had mastoid surgery were held for a week and were discharged to their villages after antibiotic saturated gauze packing had been removed to the absorbable gelfoam level.

Patients, most parents and village health aides were instructed in post-operative care, medicine application and recognition of possible complications. These instructions were verbal, written and demonstrated. Village health aides and some parents observed the surgery to promote understanding of the procedure.

Patients were started on cortisporin otic suspension on the seventh day post-operatively and this continued for three weeks. Two weeks after surgery, all but thirty patients were seen in their villages by the surgeon where all packs were mechanically removed, changes in management made if necessary and local treatments carried out. Necessary drugs were dispensed. At six weeks the surgeon made a visit. Subsequently, visits were at three, six and twelve month intervals for the majority of the patients (82%).

In tympanoplasty procedure, success was determined by drum healing with improved hearing. In the mastoid surgeries, the mastoid bowl becoming and staying dry, along with stablizied or reduced hearing loss indicated a good outcome. In the complex tympanoplasty or stapedectomy, improved hearing was considered a success.

In the non-followup group where fourteen tympanoplasties had been done only nine were successful or sixty-four percent. Three of the seven mastoids were failures with continued mastoid bowl granulation or stenosis of the external meatus with increased hearing loss for a total success of only fifty-nine percent.

In the larger group which had consistent follow-up, a success rate of eighty-two percent was found. Ninety percent of the mastoid tympanoplasty operations were successful. (See Table 1)

As found in most studies of populations with chronic otitis media the older the patient the more extensive the disease. This is demonstrated by the increased complexity of surgery required as the patient's age increases. (See Table 11) This Table also reflects a decreased degree of success in the lower age groups. This rate of seventy-six percent in the five to ten year group, although low for this study, is better then those reported by Baxter.[22]

This exercise revealed several things about an organized surgical effort in a remote population where there is a great need for otolaryngologic services.

First, a large volume of surgery can be accomplished in a short period of time. In twenty-six days of surgery, an average of ten procedures per day were accomplished.

Second, it was done successfully for the most part on an out-patient basis. This resulted in a saving of some four hundred dollars per

Table 2

Surgical Success By Age

Procedure	Age	No.	Success	Failures	Percent
Tympanoplasty	5-10	3	28	9	76%
	11-20	21	20	1	95%
	20	26	24	4	95%
Tympano-mastoidectomy	5-10	6	4	2	66%
	11-20	8	7	1	87%
	7-20	25	24	1	95%
Complex Tympanoplasty	5-10	0	0	0	
	11-20	1	1	0	100%
	7-20	3	3	0	100%
Mastoidectomy	5-10	2	1	1	50%
	11-20	5	5	0	100%
	7-20	9	7	1	75%
Stapedectomy	5-10	1	1	0	100%
	11-20	2	2	0	100%
	7-20	0	0	0	0%

case by avoiding the overnight hospital admission. The monetary savings for this clinic was one hundred four thousand dollars.

Third, travel to and from the surgical center was by group rather then by individual thus one chartered plane carried out six to eight persons. Immediate return to the village by air was accomplished without undue risk to surgical results.

Follow-up in the villages by the operating surgeon resulted in good care and an increased salvage in ears because problems could be easily identified and handled appropriately. These results oppose those presented in other reports with similar goals.[18,21,23]

There are many reasons for the high success rate, seventy-five to ninety-five percent, in this study. Pre-operative evaluation was performed by the operating surgeon with selection of tests (i.e. mastoid films, tympanometry, audiometry, etc.), which enabled accurate diagnosis and appropriate therapy. Following diagnosis the necessary surgical procedures were performed by experienced surgeons. Most importantly, follow-up supervision, instruction and care were given by the operating surgeon. Parents, children or aids were trained by the surgeon. This point is stressed because the care of a post-operative mastoidectomy or tympanoplasty is so specialized that the judicious selection of medical or surgical intervention may mean the difference between success and failure of the procedure. Often the decision can only be made by the operating surgeon.

In conclusion, in obtaining good success rates, eighty to ninety percent, with otologic surgery in remote areas, three basic tenets must be fulfilled:

1. Accurate pre-operative evaluation.
2. Surgery should be performed by an experienced otologic surgeon.
3. Follow-up in the village with interaction between the patient, surgeon, parents and paramedical and medical personnel.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* **It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination.** *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register,* 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections: Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

Pneumocystis carinii pneumonitis: Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10. *Oral suspension,* containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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Please see reverse side for summary of product information.

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March/April 1981

Feelings vs.

Some people feel that I am misused and overused and that I'm prescribed too often and for too many kinds of problems.

The FACT is that approximately eight million people, or about 5 percent of the U.S. adult population, will use me during the current year. By contrast, the national health examination survey (1971-1975) found that 25 percent of the U.S. adult population experiences moderate to severe psychological distress. Additionally, studies of patient attitudes revealed that most patients have realistic views regarding the limitations of tranquilizers and a strong conservatism about their use, as evidenced by a general tendency to *de*crease intake over time. Finally, a six-year, large-scale, carefully conducted national survey showed that the great majority of physicians appropriately prescribe tranquilizers.

Some people feel that patients being treated with anxiolytic drugs are "weak," can't tolerate the anxieties of normal daily living, and should be able to resolve their problems on their own without the help of medication.

The FACT is that while most people can withstand normal, everyday anxieties, some people experience excessive and persistent levels of anxiety due to personal or clinical problems. An extensive national survey concluded that Americans who do use tranquilizers have substantial

Facts

justification as evidenced by their high levels of anxiety. It was further noted that antianxiety drugs are not usually prescribed for trivial, transient emotional problems.

Some people feel afraid of me because of the stories they've heard about my being harmful and having the potential to produce physical dependence.

The FACT is that there are thousands of references in the medical literature documenting my efficacy and safety. Extensive and painstakingly thorough studies of toxicological data conclude that I am one of the safest types of psychotropic drugs available. Moreover, I do not cause physical dependence if the recommended dosage and therapeutic regimen are followed under careful physician supervision. However, I can produce dependence if patients do not follow their physicians' directions and take me for prolonged periods, at dosages that exceed the therapeutic range. Patients for whom I have been prescribed should be cautious about their use of alcohol because an additive effect may result.

Many of the most knowledgable people feel that I became the No. 1 prescribed medication in America because no other tranquilizer has been proven more effective. Or safer.

The FACT is they are right.

For a brief summary of product information on Valium (diazepam/Roche) (IV), please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

VA 15U— REV 1

Prepared by William Douglas McAdams, Inc.

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diazepam/Roche

Befora prescribing, please consult complete product information, a summary of which follows:
Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis; stiff-man syndrome, convulsive disorders (not for sole therapy)
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies The physician should periodically reassess the usefulness of the drug for the individual patient
Contraindicated: Known hypersensitivity to the drug Children under 6 months of age Acute narrow angle glaucoma may be used in patients with open angle glaucoma who are receiving appropriate therapy
Warnings: Not of value in psychotic patients Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy, gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence

> ***Usage in Pregnancy:* Use of minor tranquilizers during first trimestar should almost always be avoided because of increased risk of conganital malformations as suggested in saveral studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if thay intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy
Dosage: Individualize for maximum beneficial effect *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b i d to q i d , alcoholism, 10 mg t i d or q i.d in first 24 hours, then 5 mg t i d or q i d as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t i d or q i d , adjunctively in convulsive disorders, 2 to 10 mg b i d to q i d *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated (See Precautions) *Children* 1 to 2½ mg t i.d or q i d initially, increasing as needed and tolerated (not for use under 6 months)
Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50, available in trays of 10

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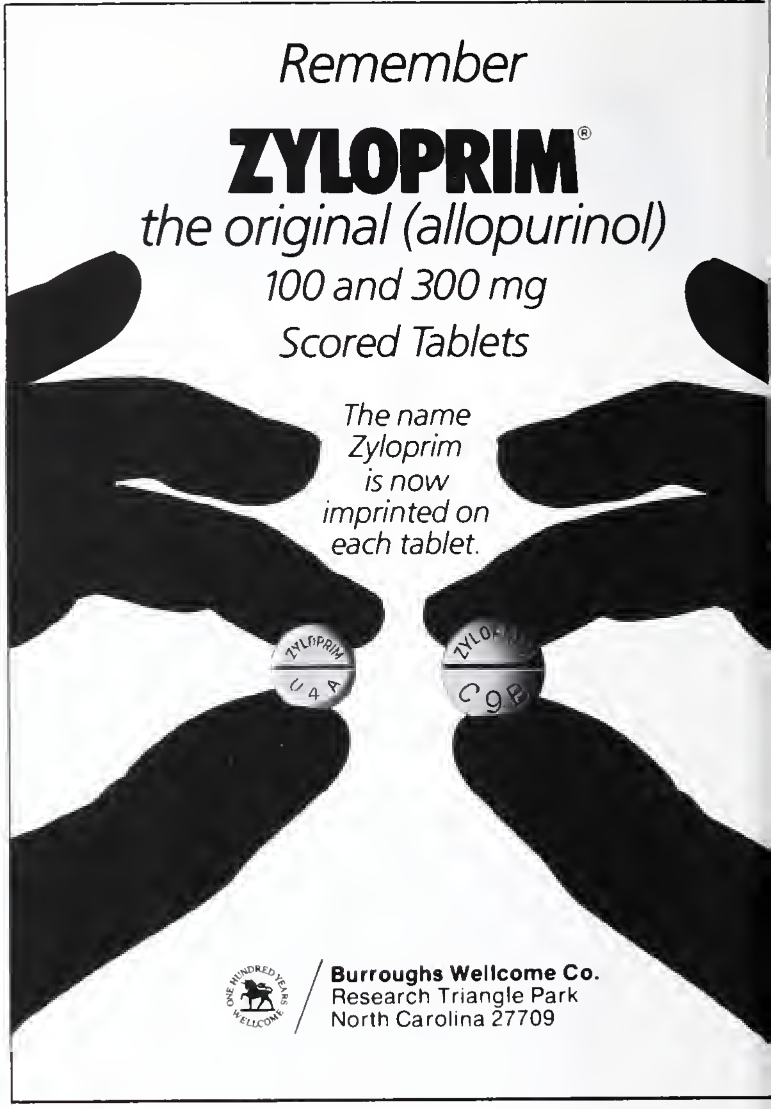

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ALASKA MEDICINE

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About the Cover: *Red Fox* by C. J. Little, M.D.

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GYNECOLOGICAL MALIGNANCY

William C. Compton, M.D.

This article lists commonly seen oncology problems in gynecology for the general practitioner and non-gynecologic specialist.

DES

In 1938, diethyl stilbesterol (DES) became available clinically. It is a nonsteroidal estrogen, inexpensive and potent orally. In 1945 Smith et al recommended its use in high risk pregnancy from early in gestation to the 35th week. Peak use of the agent was in the mid fifties and use continued thereafter in spite of a report by Dieckmann in 1953 showing that DES did not reduce abortion, prematurity, perinatal mortality or toxemia.

In 1971, Herbst reported a possible relationship between perinatal exposure to DES and clear cell adenocarcinoma of the vagina and cervix in young women. Since then more than 350 cases of this previously very rare cancer have been reported. Two thirds of the cases have a history of in utero exposure to DES or similar agent (hexestrol, dienestrol). Most cases have occurred in women between fourteen and twenty-four years with abnormal bleeding the most common presenting symptom. These cancers occur most commonly on the anterior wall of the upper one third of the vagina and on the exocervix. Most tumors are polypoid or nodular, less commonly they are flat and ulcerated. Treatment is radical surgery and radiation.

It is estimated that 0.5 to 2 million women have had DES exposure, but the occurence of clear cell carcinoma in these people is not common, approximately 0.1 per cent.

Eighty to ninety per cent of DES exposed women have adenosis, the presence of columnar glandular elements in and under squamous epithelium of the vagina. This is detectable by colposcopy or iodine staining. Adenosis has been found coincident with clear cell adenocarcinoma in almost all cases. However, there is no proof that it is a cancer precursor and no examples of transition from one to the other have been found. Adenosis has been treated in a number of ways but most consider observation the best plan. About half of patients with adenosis also have gross anatomic abnormalities of the upper vagina including transverse vaginal ridges, cervical collar and cockscomb deformity of the anterior cervix. Also in DES exposed women, the columnar endocervical epithelium extends well out on the vaginal portion of the cervix giving the appearance of "erosion" or "eversion". Abnormal colposcopic patterns of mosaicism are common but biopsies show CIN less frequently than in the mosaicism of non-DES exposed individuals.

DES daughters should be examined yearly with Pap smears and iodine staining or colposcopy of the vagina. Colposcopy is needed for abnormal cytology or evidence of gross epithelial change.

Cervix

Squamous metaplasia is the interaction of squamous epithelium of the exocervix with columnar epithelium of endocervix, the squamous spreading centrally to cover the columnar. Normal columnar epithelium on the exocervix gives the appearance of "eversion" or "erosion" which actually is normal and not an indication for therapy. Squamous metaplasia is active in the adolescent and contact during those years with coitus, multiple sex partners and herpes virus II are associated with development of dysplasia and carcinoma-in-situ. There may be a vernereally transmitted carcinogen other than the above factors.

The newer concept of cervical intra-epithelial (CIN) stresses the idea that dysplasia and

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carcinoma-in-situ are on a continuum: CIN I referring to mild dysplasia; CIN III referring to severe dysplasia or carcinoma-in-situ.

Pap smears on an annual or semi annual basis have been part of a successful large scale screening program with pickups of breast and pelvic pathology as well as cervical dysplasia and cancer. The Walton report, published in 1976, recognized high risk patients and the ten year average transit time of CIN to invasive cancer. On a basis of cost effectiveness it recommended: (1) initial Pap smears on every woman over eighteen who had coitus; (2) a second smear after one year to allow for false negative results; (3) if first two smears are negative, Paps every three years to age 35, every five years to age 60, no further smears if all have been negative. The American Cancer Society has recently endorsed those conclusions.

The American College of Obstetricians and Gynecologists disagrees with the American Cancer Society. Reasons set forth include reported false negative Paps of fifteen to forty per cent; advantages of early detection which is more likely with more frequent smears; detection of breast, ovary and other conditions coincident with the annual smear; the known fact that the high risk population as the lowest rate for screening and that rate may fall further on the new recommendations. Most practicing gynecologists have seen a number of patients with invasive cancer diagnosed after a progression of benign Paps. Also worthy of consideration is the fact that the Pap smears, unlike other screens such as mammography or sigmoidoscopy, have no morbidity. Cost is the only reason for decreasing frequency of Paps. This whole question promises a continuing area of controversy.

The colposcope, introduced by Hinselman in 1925, has gained widespread acceptance by gynecologists over the past ten years. Realization of the limitations of random biopsies, as well as improved terminology and observed relationships of morphologic changes to histologic abnormalities, have led to this acceptance.

With the colposcope has come the awareness that the "transformation zone", which includes the squamocolumnar junction as well as areas of previous squamous metaplasia, is visible in some eighty-five per cent of women with speculum examination. The scope is merely a ten to fourteen power binocular microscope with an available green filter to accentuate the vascular patterns. The colposcopist searches for abnormalities such as "white epithelium", "mosaicism" and "punctation" suggestive of dysplasia or carcinoma-in-situ and "atypical vessels" suggestive of invasion. When such patterns are seen, directed biopsies are taken. A simplification for patients is that the Pap suggests a cervical abnormality, the colposcope shows where it is and the biopsy shows what it is. Thus most diagnostic cones can be avoided. Conization is still indicated with abnormal Paps when the entire transformation zone is not visible with the colposcope, when carcinoma is found on endocervical curettings, when micro-invasion is found on biopsy or as excisional therapy for CIN II in a woman who plans future childbearing. Office cryotherapy is used for lesser degrees of dyplasia and the CO_2 laser offers promise for the future with apparent advantages over cryotherapy.

Stage IA, microinvasive disease, defined as invasive no greater than three millimeters without vascular or lymphatic invasion, is usually treated by simple hysterectomy. Stages IB and IIA can be treated with radical hysterectomy and pelvic lymphadenectomy. Stage IV lesions and localized central recurrences after radiation are sometimes treated with pelvic exenteration. The radical procedures are highly demanding of technical skill and experience and appropriately done only in medical centers by experienced medical teams frequently dealing with these problems.

Likewise there is an obligation to avoid surgical undertreatment of patients with invasive cancer. A simple hysterectomy with surprise pathologic findings of invasive cervical cancer seriously compromises the patient's chance of cure.

Radiation therapy of all stages of invasive cancer can be a valid treatment modality regardless of age or medical condition of the patient.

Endometrium

Adenocarcinoma of the endometrium affects 2.2 per cent of all women, accounts for 7 per cent of all cancers in women and is the most common invasive gynecological cancer. Seventy per cent of the cases occur in women over fifty. Overall five year survival is sixty-eight per cent.

Adenomatous hyperplasia of the endometrium has long been recognized as a precursor. Cystic or "swiss cheese" hyperplasia is not. A number of conditions resulting in unopposed (by progesterone) estrogen states are associated both with adenomatous hyperplasia and carcinoma of the endometrium, including Stein Levinthal syndrome, granulosa cell tumors of the ovary and prolonged anovulation.

The classic patient is nulliparous, diabetic, obese with menopause occurring late. Androstenedione is secreted in large amounts by the menopausal ovary, and in such women there may be increased conversion of that compound to estrone, perhaps peripherally by fatty tissues.

There are multiple studies associating post menopausal estrogen use with increased probability of endometrial carcinoma. On the other hand there are studies which suggest little or no relationship. In any event, the FDA has concluded that strong evidence exists linking postmenopausal estrogen use with endometrial cancer and has required a package insert warning patients of these drugs.

Against these warnings the patient and her physician must weigh the benefits of estrogen use which include relief of hot flushes, a general feeling of well being, prevention of atrophic vaginitis and probably prevention of post-menopausal osteoporosis.

One approach to the dilemma has been to prescribe a progestin to induce monthly withdrawal bleeding in the patient taking post-menopausal estrogens. In theory this prevents unopposed estrogen stimulation but the regimen is similar to sequential oral contraceptives which were taken off the market due to reports of endometrial carcinoma in young women on sequentials.

Use of estrogens in postmenopausal patients is a matter for informed consent. However, whether estrogens or used or not used, it must be remembered that any abnormal bleeding in the menopausal or post-menopausal woman makes endometrial sampling and tissue diagnosis mandatory. This means D&C or perhaps endometrial biopsy. Fractional curettage is needed for staging.

Total abdominal hysterectomy, bilateral salpingo-oophorectomy is accepted treatment for endometrial cancer. Radical hysterectomy and node dissection do not increase survival in Stage I disease but have been used for Stage II disease (cervix involved). Radiation alone used in Stage I gives five year survival somewhat less than surgery, sixty-nine per cent versus eighty-seven per cent in one series. Radiation alone is therefore an acceptable choice for the patient unable to tolerate surgery.

Radiation as an adjunct to surgery is controversial in Stage I and well accepted in higher stages. The incidence of pelvic and aortic node involvement increases with increasing depth of myometrial invasion and state and decreasing histologic differentiation.

Most agree that a well differentiated lesion confined to the fundus with a small uterus (Stage I, Grade I) is best treated with total abdominal hysterectomy, bilateral salpingo-oophorectomy only. If pathology then shows deep myometrial invasion, cervical extension or positive pelvic nodes, post-operative pelvic radiation is indicated.

With an enlarged uterus or a poorly differentiated lesion, preoperative radiation is generally used. Heyman packing, using intrauterine radium has been common in the past, with external whole pelvic radiation now becoming more popular as well as decreased delay between radiation and subsequent hysterectomy.

Theoretical bases of radiation include sterilization of tumor, decreased viability of tumor cells released by operative manipulation and treatment of nodal metastases. Decreased vaginal recurrences are a proven benefit of adjunctive radiation.

Progestins and chemotherapy are used with widespread disease. About one third of tumors respond to progestins, response more likely with a well differentiated lesion and with positive receptor sites for estrogen and progesterone. Fortunately, seventy-five per cent of endometrial cancers are diagnosed as Stage I.

Ovary

1.4 per cent of women will develop cancer of the ovary. Unlike cervix and endometrium cancers, sixty to seventy per cent present with Stage III or IV disease thus the overall five year survival of twenty to twenty-five per cent.

Presentation of an adnexal mass, usually unilateral, is the opportunity to diagnose and treat an ovarian cancer early.

The adnexal mass presents a differential including physiologic ovarian cysts related to ovulation (follicular or corpus luteum cysts), benign as well as malignant ovarian neoplasm, hydrosalpinx, parovarian cyst, pedunculated fibroid, bowel pathology, distended bladder, corpus luteum of pregnancy, etc. Pregnancy especially should be ruled out before undertaking radiologic investigation of a mass.

In the premenarchal or postmenopausal female, or the woman on oral contraceptives, ovulation is not occurring and physiologic ovarian cyst is not valid in the differential diagnosis. Any ovarian enlargement in these patients indicates laparotomy.

During the reproductive years, a cystic mass seven centimeters or less in diameter can be observed four to six weeks for disappearance. A physiologic cyst will disappear in that time span. A persistent or enlarging mass then is indication for surgery.

A woman more than two years postmenopause normally has ovaries 1.5 x 1 x 0.5 centimeters, and they should not be palpable on pelvic examination. The palpable postmenopausal ovary (PPMO) is abnormal and indicates exploration for possible neoplasm.

KUB, IVP, barium enema, sonography and CT scans can be helpful in preoperative investigation of a mass. However, only laparotomy can confirm malignancy and stage the disease.

Midline incision is appropriate when ovarian cancer is suspected. Pfannenstiel's incision does not allow adequate access to the upper abdomen and can not readily be extended. The spread of epithelial ovarian cancer is initially by contiguous growth but later by peritoneal spread. Therefore the entire peritoneal cavity needs exploration. Peritoneal fluid samples are taken for cytology on entering. If no fluid is present, saline should be irrigated and collected. All peritoneal surfaces should be inspected for tumor, as well as diaphragm, liver, omentum and mesentery. Aortic and pelvic nodes should be palpated and freely sampled.

The surgical treatment of ovarian cancer is total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy and resection of any tumor bulk which can be reasonably accomplished.

Survival and response to chemotherapy is much better in patients who have no residual tumor greater than 1.5 centimeters in diameter after surgery.

For the patient with no residual tumor after surgery, some advocate systemic chemotherapy for twelve to eighteen months or intraperitoneal chromic phosphate (P32). The latter is a pure beta emitter, depth of radiation is limited, minimal bowel complications occur and pickup of this colloid by serosal surfaces is theoretically similar to the mode of spread of ovarian cancer cells. One or the other of these modes of adjuvant therapy is especially logical when peritoneal cytology has been positive or intraperitoneal spill of tumor has occurred at surgery.

For the patient with gross or probable microscopic tumor remaining in the pelvis, pelvic irradiation is still used. All peritoneal surfaces, including the abdomen, must be treated. Since radiation tolerance of the kidneys is limited, they must be shielded and a hiding place for cancer cells then results when abdominal radiation is used. Systemic chemotherapy can be used solely to treat the abdomen or along with radiation to the pelvis.

For Stage III and IV disease, systemic chemotherapy is as effective as radiation with less complications. Single drug alkylating agents yield a response rate of approximately forty per cent. Triple drug chemotherapy regimens offer higher response rates, response for some single agent non-responders and also more side effects and complications.

The patient on chemotherapy with no evidence of disease faces increasing risk of acute myeloblastic leukemia after two years. Second look abdominal exploration can be used to determine the safety of discontinuing chemotherapy usually after twelve to eighteen months.

For the patients with extensive disease nutrition can be a severe problem. Tumor mass and ascites can mechanically limit gastric capacity. Products of tumor metabolism may alter taste thresholds to make meat and sugar unpalatable. Protein is lost in ascitic fluid and used for gluconeogenesis. Parenteral nutrition is useful for these patients and is part of a more aggressive approach to this disease including maximum surgery and chemotherapy.

Immunotherapy of ovarian cancer is receiving attention currently. Non-specific immunotherapy refers to injection of BCG or killed Corynebacterium parvum or other agent to stimulate cell mediated immunity. Immunochemotherapy refers to combining such a technique with chemotherapy. Active immunotherapy would refer to active immunization against a yet to be discovered oncogenic virus or against killed or inactivated cancer cells.

Passive immunotherapy would employ antisera formed against a specific cancer. Mouse spleen cells, exposed to an antigen and then fused with plasmacytoma cells, have formed "hybridoma" cells which have the ability to form pure or "monoclonal" antibodies against that antigen. Hybridoma antibodies, used to cure mouse leukemia, offer a promising new technology.

It is important that:

(1) Any post menopausal vaginal bleeding warrants GYN consultation.

(2) Any woman with a uterus, on postmenopausal estrogens, should periodically be re-informed of risks and benefits and consideration given of endometrial biopsy even without bleeding or discontinuance of the hormones.

(3) No woman in the childbearing years undergo radiologic investigation for GI symptoms and/or mass without consideration and exclusion of possible pregnancy.

(4) No pregnant woman undergo x-ray pelvimetry without solid obstetrical indication and without the knowledge that this might increase the risk of childhood thyroid cancer and leukemia for her fetus.

(5) Any woman who has a Class II Pap or higher be referred to a gynecologist who is a colposcopist. A repeat Pap returned as Class I is not a reason to reassure the patient and should not delay evaluation of her cervix and vagina.

(6) Any woman hospitalized or undergoing medical evaluation have a pelvic exam and Pap smear done by her physician.

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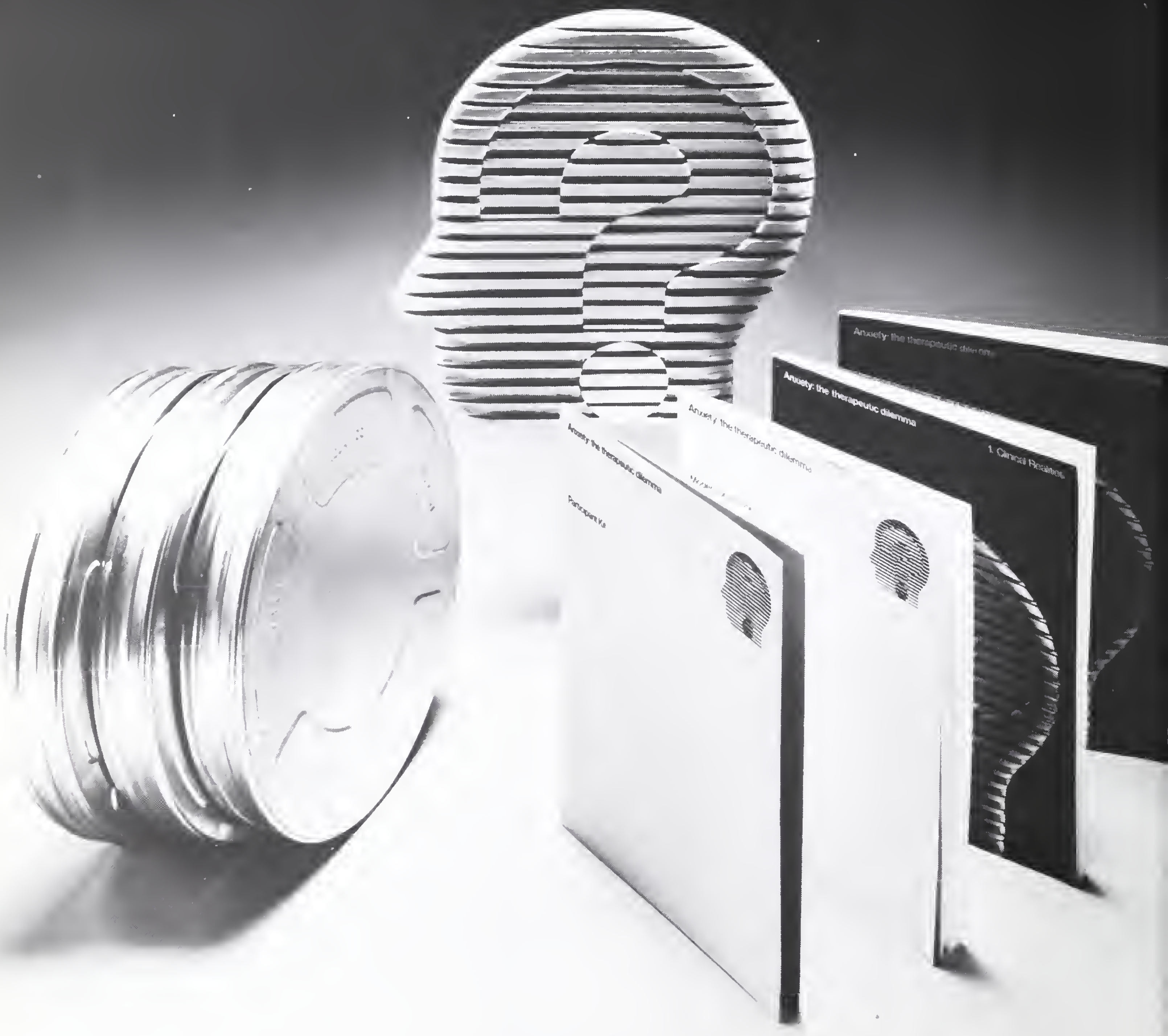
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EXPERIENCE FROM THE 1980 MIDNIGHT SUN MARATHON: INJURIES & TRAINING

Jay Caldwell, M.D., M.P.H.

The recent nationwide running boom has reached Alaska. The Runner's Calendar, published by the Anchorage Municipal Parks and Recreation Department, lists weekly runs in Anchorage from March through Thanksgiving at distances from 5 kilometers to 40 kilometers and frequent races in Fairbanks, Juneau and Kodiak. Depending on the terrain, the distance, the weather, the time of day and the entry fee, the starting field ranges in size from a half-dozen to over a thousand. In 1980 there were six standard marathons (26 miles, 385 yards) and a 45-mile run on Kodiak. The 1980 Runner's Calendar listed 96 races.

The Midnight Sun Marathon (also known as the Mayor's Marathon) is held on the Saturday nearest the Summer Solistice. Last year's race was on June 21, the seventh marathon, and attracted 302 entrants (42 female, 269 male) ranging in age from 12 to 62. Each paid a seven dollar entry fee which is the highest race fee in the state. Two hundred fifty-two of these starters finished: the first man in 2 hours, 29 minutes, 52 seconds; the first woman in 3:00:42 (33rd overall). The last place finisher completed the course in 5:53:48.

This article will describe the medical support for the 1980 Midnight Sun Marathon. It will also delineate training and injury patterns experienced by the runners both those who finished and those who did not.

The Course

The race started at 7:30 A.M. at Bartlett High School in northeast Anchorage. After eight miles along road shoulders, the runners entered "The Tank Trail". This is a nine mile section of undeveloped roads across the foothills of the Chugach Mountains. It is moderately hilly, forested, muddy and accessible only to four-wheel-drive vehicles from one direction. The final nine miles are along the paved bike trail system finishing at the West High School track. The entire course requires only a single traffic intersection crossing and one other major police-assisted street crossing. The maximum altitude gain is a few hundred feet. The weather conditions were generally favorable.

The most worrisome portion of the course is the Tank Trail which is not only difficult but comes during the critical middle third of the race when many of the inexperienced runners encounter problems. Once a runner decides to

Table I
Metereological Conditions
Saturday, June 21, 1980

Time	Temperature (°F)	Wind (knots)	Wind (Direction)	Sky
7 AM	49°	5	NE	4000 scattered 6000 overcast
8 AM	51°	5	N	8000 broken 12000 overcast
9 AM	54°	5	NNW	8000 broken 12000 Overcast
10 AM	55°	5	NE	3500 scattered 10000 overcast
11 AM	58°	8	SW	4000 scattered 7000 scattered 10000 broken
12 noon	57°	9	WNW	3800 scattered 6000 scattered 10000 broken
1 PM	59°	11	W	3800 scattered 6000 broken 10000 broken

Relative humidity 53% (9 AM)
Precipitation: None
Fog: None
Sunrise: 3:21 AM
Sunset: 10:42 PM

continue beyond the 8.5 mile mark, he/she must continue to the 15-mile point before there is access to the outside.

Aid stations were set up at the following mile points with volunteers at each dispensing water and a dilute glucose-electrolyte solution: 3, 5.5, 8.5, 10, 13, 17.2, 19.5, 22 and 24 miles. A variety of fluids were also available at the finish. Except when supplied by runners for their own use, no solid food or sponges were supplied. Medical aid was available at the 6.5, 13, 17.2 and 19.5 mile points in addition to the start and finish. CB radios were to have been available at each medical aid site but those volunteers failed to materialize on race day.

Organization of Medical Support Team

Three physicians, a physical therapist trained in emergency cardiopulmonary life support procedures, an athletic trainer, two army paramedics comprised the medical team. The physician-in-charge was a family practitioner with special interest in Sports Medicine while the other two doctors were a pediatrician and a family practitioner. All of the staff served without pay.

The Physician Director was responsible for the overall organization. He spoke at the pre-race "clinic" at which general advice was offered and questions answered and then monitored the operation as a contestant.

On race day one of the physicians was stationed at the 13-mile point. To reach this fairly inaccessible spot on the Tank Trail he had to ride in on the Army paramedic vehicle. After all runners cleared this half-way point he moved to the finish line. The second physician was to have monitored the entire course with the help of the CB radio system, but since that did not function, he moved to the finish line after checking out the other aid stations.

The trainer was stationed at the 17.2 mile mark so that he was the first medical person available to the runners after they completed the Tank Trail. A police radio was also available at that point. The physicial therapist monitored the final on-course station at the 19.5 mile spot. Both of these team members moved to the finish line after their site cleared. The Municipal Rescue Squad was on-call for the race and so was not present at all times.

Except for a first aid kit or two, almost all supplies were brought by the individuals on the team. One major problem was that the medical team members were not identified by easily detectable clothing nor were the medical aid stations marked in an appropriate fashion. This partially explains the observation that less than 8% of the runners sought any assistance from our team despite the fact that 58% of the finishers and 70% of the non-finishers reported "injuries".

Methodology

About three weeks after the race the Parks and Recreation Department mailed a questionnaire to each of the 252 finishers of the marathon. The self-addressed and stamped form was in two parts: an open-ended section in which the runner was asked to give an opinion about various aspects of the race's organization and a second part designed by me which sought information about training, performance and injuries. Within 60 days, 84 (35%) had returned this questionnaire and within 100 days, 104 (41%) has been received. This study is based on the first 84.

Six weeks after the race the second part of the questionnaire was sent to the 50 registrants who did not finish the race. Thirty-two (64%) came back within 30 days.

Results

All data in this report derives from these two sets of questionnaires. Thus all diagnoses are those of the runners themselves with only three of the respondents examined by me.

Furthermore, because of the nature of the questionnaire it must be assumed that the respondents and the non-respondents are quite distinct groups. Since the form was designed to gather information about problems, the responses probably include at least a few whose "injuries" were quite minor. In fact 21% of the "injuries" reported by the finishers had resolved with 24 hours. Thus an injury was defined as any physical problem that the runner felt negatively affected his/her performance.

Fifty-eight percent of the finishers indicated some sort of injury, 73% of these occuring during the race. Seventy percent of the non-finishers also reported problems. Table II shows the percentage of injuries reported by various groups of racers while Tables III and IV give the gender and age breakdown of the injured. The fifty-nine problems generated by this questionnaire are tabulated in Table V while the body parts described as hurt are listed in Table VI.

In order to assess the severity of these self-reported injuries the runners were asked to describe what they did for therapy and how long it took for them to "recover". The overwhelming majority either did nothing or applied minimal home therapy and rest. Eleven percent of the injured described seeking a physician's advice but as can be seen in Table VII, these were mostly those who were forced to drop from the race. The problems seen by physicians were plantar fasciitis (2), iliotibial band friction syndrome (2), non-specified knee tendinitis and a stress fracture of the metatarsals. One other runner mentioned a "stress fracture of the leg" but did not mention visiting an M.D.

In terms of recovery, the normal natural history of uncomplicated overuse inflammatory reactions is demonstrated. Forty-two percent of the injured recovered within 72 hours although the relative seriousness of the injuries suffered by those who did not finish the race is shown by their 72-hour recovery rate of only 34%. Nonetheless, one quarter of all the injured were still hobbled after two weeks. Table VIII lists recovery times for the two groups of injured.

Whether or not a runner considered himself to be fully recovered, it can be seen from Table IX that his return to running was similar to that for his non-injured comrades. Those able to complete the race regained their mileage on a schedule similar to that for all the runners. Those who had to drop from the race took more time off and then came back more slowly.

Finally, Table X breaks out some of the training and experience data relative to injuries. Although the training data for the month immediately prior to the marathon does not suggest a gross differential, the runners' total marathon experience, which may represent better the total time that the musculoskeletal system has had to adapt to long-distance running trauma, does.

Conclusion

It is not surprising that the characteristic profile of the injured runner is of one who is young, under-prepared and inexperienced in long road races. Nor is the pattern of injury other than what would be expected. What is surprising is the high percentage, even discounting the selective bias of the questionnaire, of competitors whose performance suffered because of injuries. Since most of these injuries can be lumped into the overuse-trauma category, rather than the acute, unexpected trauma of field and court sports, they should be completely preventable through appropriate training methods. That this is not happening implies that the running boom, and marathoning in particular, may be placing an unreasonable psychic and physical stress on the hobby jogger. Since most people can obtain a reasonable level of fitness by jogging not much more than ten miles per week (30 minutes per day, thrice weekly)[1] and since Paffenerger[2] suggests that in terms of simple aerobic fitness, more than 2000 calories expended per week is not necessary (which works out to about 20 miles weekly of jogging or walking), the Holy Grail of marathon completion may be an inappropriate goal for most. After several years of physiological and musculosketeal conditioning, the previously under-exercised body can be called upon to extend its limits but to do so prematurely is certainly risky and probably self-defeating.

Table II

INJURIES IN THE MIDNIGHT SUN MARATHON

	Overall	Top 50	Middle 100	Bottom 100	Women	Novices	Veterans	Non-Finishers	Scratched
Injury Reported %	57.8	52.2	60.0	60.0	55.6	63.2	37.5	70	86
Occurrence: Before Race (%)	27.1	50	33.3	5.5	20	12.5	50	9	100
Occurrence: During Race (%)	58.3	41.7	44.4	83.3	60	70.8	50	41	-
Occurrence: Both (Same Injury)(%)	8.5	8.3	22.2	11.1	20	16.7	0	32	-

TABLE III

GENDER OF INJURED RUNNERS

	Injured Finishers	Injured Non-finishers	Injured Total	Total Finishers
Men	33 (89)*	14 (87.5)	47 (89)	75 (88)
Women	4 (11)	2 (12.5)	6 (11)	9 (12)
Total	37 (100)	16 (100)	53 (100)	84 (100)

*Actual number (%)

TABLE IV

AGES OF INJURED RUNNERS

Age	Total Finishers	Total Injured	Injured Finishers	Injured Non-Finishers
19 & under	8.4%	9 (17)*	5 (14)	4 (25)
20-29	22.9%	10 (19)	7 (19)	3 (19)
30-39	49.4%	25 (47)	19 (51)	6 (37.5)
40-49	12.0%	5 (9)	3 (8)	2 (12.5)
50-59	3.6%	3 (6)	2 (5)	1 (6)
60+	3.6%	1 (2)	1 (3)	0 (0)
Total	100.%	53 (100)	37 (100)	16 (100)

* Actual number (%)

TABLE V

TYPE OF INJURY

	Finishers	Non-Finishers	Total
Tendinitis	11 (27)***	5 (28)	16 (27)
Blisters	9 (22)	2 (11)	11 (19)
Muscle Soreness/Tightness	5 (12)	3 (17)	8 (14)
Muscle "cramps"	8 (20)	0 (0)	8 (14)
Other soft tissue injury	0 (0)	2 (11)	2 (3)
Fracture	0 (0)	2 (11)	2 (3)
Arthralgias, non-specific	1 (2)	1 (6)	2 (3)
"Shinsplints"	1 (2)	1 (6)	2 (3)
Other*	1 (2)	1 (6)	2 (3)
Medical **	5 (12)	1 (6)	6 (10)
Total	41 (100)	18 (100)	59 (100)

* Sciatic nerve irritation, knee cartilage tear
** URIs, vomiting, heart/lungs felt "funny"
*** Actual number (%)

TABLE VI

BODY PART INJURED

	Finishers	Non-Finishers	Total
Foot	11 (31)*	6 (32)	17 (31)
Ankle	0 (0)	1 (5)	1 (2)
Calf/Shin	7 (19)	5 (26)	12 (22)
Knee	10 (28)	5 (26)	15 (27)
Thigh	3 (8)	1 (5)	4 (7)
Hip/Groin	4 (11)	1 (5)	5 (9)
Trunk	1 (3)	0 (0)	1 (2)
Upper Body	0 (0)	0 (0)	0 (0)
Total	36 (100)	19 (100)	55 (100)

* Actual number (%)

TABLE VII

INJURY TREATMENT

	Finishers	Non-Finishers	Total
Aid during race	1 (25)*	4 (29)	5 (9)
Finish line aid	2 (5)	0 (0)	2 (4)
Home self-care	20 (50)	2 (14)	22 (41)
Physician	2 (5)	4 (29)	6 (11)
None	15 (37.5)	4 (29)	19 (35)
Total	40 (100)	14 (100)	54 (100)

* Actual number (%)

TABLE VIII

INJURY RECOVERY TIMES

	Finishers	Non-Finishers	Total
Less than 24 hours	8 (21)*	1 (7)	9 (17)
1-3 days	9 (24)	4 (27)	13 (25)
4-7	8 (21)	2 (13)	10 (19)
8-14	5 (13)	4 (27)	9 (17)
More than 2 weeks	8 (21)	4 (27)	12 (23)
Total	38 (100)	15 (100)	53 (100)

* Actual number (%)

TABLE IX

INJURIES AND RETURN TO RUNNING SCHEDULES

	Overall	Injured Finisher	Injured Non-Finisher	Injured >3 weeks
Pre Race Mileage**	45.3	41.3	46.3	44.9
Post-Race Week #1	20.6 (45%)*	20.4 (47%)	12.8 (28%)	18.5 (41%)
Post-Race Week #2	28.2 (62%)*	27.9 (68%)	20.6 (44%)	25.5 (57%)
Days to next run	3.6	3.8	8	6.25

* Percentage of pre-race mileage

** Average weekly mileage for one month prior to race

TABLE X

TRAINING AND INJURIES

	Pre-Race Mileage*	Pre-Race Longest Run**	Novice Runners	Veterans Runners
All Finishers	45.3	17.0	45.8%	19.3%
Injured Finishers	41.3	15.9	62.2%	5.4
Injured Non-Finishers	46.3	13.5	37.5%	6.3%

* Average weekly mileage for one month prior to race

** Within one month prior to race

Novice - no marathons completed
Veteran - 5 or more marathons completed

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GIARDIASIS IN ALASKA 1969 - 1979: A DESCRIPTIVE EPIDEMIOLOGICAL STUDY

Neil J. Murphy

In a recent nationwide CDC Intestinal Parasite Survey, *Giardia lamblia* was the most commonly identified organism.[1] Outbreaks have occured primarily in mountainous areas particularly in the Rocky Mountains, New England and the Pacific Northwest. These areas traditionally have depended upon surface water sources free of gross human sewage contamination and water treatment has been minimal consisting primarily of disinfection only.[2] Recent discussion with the Alaska Medical Epidemiologist revealed a possible increase in the reporting of *G. lamblia* by the Alaska Department of Health and Social Services, Division of Public Health Laboratories. This survey seeks to identify and quantitate possible trends in the reporting of *G. lamblia* in Alaska, Fiscal Years July 1, 1969 - June 30, 1979.

G. lamblia is a pear-shaped multiflagellar protozoan, the only common protozoan that parasitizes the human duodenum and jejenum.[3] It is actually motile but may attach itself to the intestinal mucosa by means of a large ventral sucker. Encystation occurs in transit through the colon. The resulting ovoid cysts are the infective form of the parasite and can be transmitted by the fecal oral route with an incubation period of one to eight weeks.[4] *G. lamblia* can survive in water and remain infective for 16 days[5] and as few as 100 cysts can have a 100 percent infectious rate.[6]

The pathogenicity of *G. lamblia* has been questioned in the past because cysts may be found in large numbers in the stools of entirely asymptomatic persons. It has been reported that as many as 13 percent of those infected may be asymptomatic cyst passers.[7] Yet in others, large numbers of parasites attached to the bowel wall may cause irritation and low grade inflammation of the duodenal or jejunal mucosa with consequent acute or chronic diarrhea. In these cases the alterations in the surface of the host cell may become so severe that it is no longer possible to discern any recognizable features of the microvillous border.[8] In chronic infections, steatorrhea and malabsorption may develop.

The epidemiology of giardiasis indicates transmission is primarily waterborne although person-to-person transmission has also been implicated. In the United States, 23 waterborne outbreaks affecting 7,009 persons have been reported to the CDC and EPA (Environmental Protection Agency) since the first documented outbreak in Aspen, Colorado in 1965.[9] Other community outbreaks occurred in Rome, New York between November 1974 and June 1975 and in Camas, Washington in 1976.[10-12] The latter was the first outbreak in which a filtered water supply was contaminated. Investigators noted beavers in the Camas water shed were the only carriers of the protozoan detected. Also

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Neil J. Murphy is a third year WAMI medical student who did his undergraduate work and his first year of medical school at the University of Alaska, Fairbanks. The work for this paper was done during the summer following his first year of medical school with the help of a stipend from the Medical Student Summer Research Program and with funds specifically donated by Boise-Cascade Corp. This work was done under the guidance of Dr. Thad Woodard then State Medical Epidemiologist at the Section of Communicable Disease Control Office in Anchorage.

G. lamblia was found in a beaver pond upstream from Estes Park, Colorado following an outbreak.[13,14] Outbreaks following ingestion of untreated cistern and surface waters have also been documented.[15-19] Person-to-person transmission seems to be less common but implicated in studies involving homosexual populations, children of residential nurseries and students in a closed community.[20-26]

Recent foreign travel has been associated with 83 percent of the giardiasis cases in a Palo Alto study[27] and 71 percent of giardiasis cases in 1975 in Minnesota.[28] A well-documented outbreak involved travellers to Leningrad in the Soviet Union.[29,5] In this outbreak, tap water was the suspected mode of transmission.[30]

Little is known about the possible modes of transmission of *G. lamblia* in Alaska. What little is known was documented during the 1950s from limited surveys in Eskimo villages.[31-35] *G. lamblia* was identified in one percent of nonselected consecutive outpatients at both the Alaska Native Service Hospital in Bethel in 1949 and the Alaska Native Service Hospital in Kotzebue in 1950.[31,32] Surveys in the lower Kuskokwim River area during 1955-56 revealed 2.3 percent positive *G. lamblia* in 10 villages and 3.6 percent in nine fish camps.[33] Examination of canines in the same survey revealed 0.9 percent positive in the villages and 3.6 percent positive in the fish camps. Study of two specific villages in the Kuskokwim drainage on a yearlong basis revealed *G. lamblia* in 6.3 percent of the specimens examined.[34]

Though the village surveys document the prevalence of *G. lamblia* in isolated areas of Alaska, a more comprehensive and recent view of *G. lamblia* in Alaska is lacking. This study consists of two parts: 1) a statewide survey of ova and parasite examinations 1969-1979, and 2) questionnaire results from patients with documented *G. lamblia* January 1 - December 31, 1979. All cases were documented by the Division of Public Health Laboratories during 1979 through the methods described below.

Methods and Materials

Laboratory Survey

The Division of Public Health Laboratories of the Alaska Department of Health and Social Services received specimens for ovum and parasite examination primarily from private physicians. The Division of Public Health Laboratories is divided into three regions: the Northern Regional Laboratory (NRL) based in Fairbanks; the Southcentral Regional Laboratory (SCRL) in Anchorage; the Southeastern Regional Laboratory (SERL) in Juneau. Stool specimens, usually preserved in 10 percent formalin, were examined, both directly and concentrated by the ether-formalin method, under a light microscope. All ova and parasites identified were recorded on the original examination form on which the patient's name, age, sex, race, physician/practitioner, clinic address and the date of collection of the specimen were recorded. The author tabulated and analyzed available information for all individuals whose stool specimens were received during FY 69-79 for examination of possible ova and parasites. This survey utilized the individual examination forms and monthly, quarterly and yearly reports. Data from monthly reports were cross-checked with weekly laboratory report listings and the actual laboratory results when available. The monthly reports generated information for the total examination figures and the weekly listings provided the information on the specific parasite indentified.

Questionnaire

Individuals with positive examinations for *G. lamblia* reported from each of the three regional Public Health Laboratories from January 1, 1979 through December 31, 1979 were considered documented cases of *G. lamblia* and hence prospective subjects for the questionnaire. With the permission of the physician/pratitioner, the prospective subject was mailed a questionnaire. The questionnaire covered clinical history, domestic water supply, travel outside the United States*, travel inside the United States but outside Alaska**, travel inside Alaska***, pets, public exposures such as swimming and restaurant use and basic demographic information. Only travel that occurred within two months of the onset of symptoms was considered. Under each classification of travel, additional questions were posed concerning exact onset of symptoms in relation to travel: source of water, water treatment, if any, and types of outdoor activities engaged in.

Results

Laboratory Survey

From 1969 to 1979 the Division of Public Health Laboratories examined a total of 10,618 specimens of which 352 (3.3%) were positive for *G. lamblia*, the most commonly reported intestinal parasite*. Two hundred thirty-seven (67% of total positive) *G. lamblia* were reported from the Northern Regional Laboratory (NRL), 81 (23%) from the Southcentral Regional Laboratory (SCRL) and 34 (10%) from the Southeastern Regional Laboratory (SERL).

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* Type A
** Type B
*** Type C

Throughout the 10-year period, there was both an absolute and relative increase in the number of positive *G. lamblia* reported. Beginning in 1969 with no *G. lamblia* incidence peaked in 1979 at 97 (5.1%). (See Table I) In the three regions combined, a seasonal peak was noted with monthly figures highest in October, September and August respectively. (See Table II) Peak years of reported *G. lamblia* have varied throughout the three regions. NRL recorded its highest yearly percentage of positive isolates for *G. lamblia* in FY74 with 5.3% of the total fiscal year specimens; SERL peaked in FY77 with 6.5% and SCRL peaked in FY79 with 8.2%. The median age was 26 years with a sex distribution of 57% male and 43% female. The race distribution was 91% Caucasian and nine percent Alaska Native.

Questionnaire Data

Permission was received from the practitioner/physician to send questionnaires to 63 patients with documented *G. lamblia*. Forty-two (67%) of the questionnaires were completed and returned. The respondents consisted of 23 (55%) males and 19 (45%) females. Thirty-seven (88%) were 40 years old or less and the median age was 23 years old.

Fifteen (36%) of the respondents were from Fairbanks, 12 (29%) from Juneau, nine (21%) from Anchorage, two (5%) from Dillingham, two (5%) from McGrath and one (2%) from Unalakleet. Overall, 36 (86%) of the respondents resided in Alaska population centers larger than 19,500.

The majority (88%) reported domestic water supply to be either the community water system or a well and only five (12%) reported use of surface water domestically. Terminal water treatment and filtering were not utilized in seven (17%) and 10 (24%) respectively. The majority (77%) noted use of a sanitary sewer system or septic tank while only four (10%) reported use of an outhouse.

Type C travel (travel inside Alaska) was noted by 28 (67%) of the respondents within two months prior to the onset of symptoms. (See Table II) Twenty-five (81%) of these travellers reported engaging in outdoor activities and 23 (82%) reported use of untreated surface water. Four (16%) of those engaging in outdoor activities noted using surface water after it was boiled. (See Figure 1)

Type A travel (travel outside the U.S.) was reported by only two (5%) respondents. One of these foreign travellers also reported use of untreated stream water in Alaska prior to the onset of symptoms.

Type B travel (travel inside the U.S., but outside Alaska) was noted by 10 (24%) respondents but seven (70%) of these respondents also reported subsequent travel within Alaska prior to the onset of symptoms. Five (50%) of the Type B travellers reported engaging in outdoor activities, but only one drank intreated surface/stream water. This latter respondent also reports the use of untreated surface/stream water in Alaska prior to the onset of symptoms.

Swimming within two months prior to the onset of symptoms was noted by 11 (26%) of the respondents. Eight (73%) of those who swam utilized either a river, lake or stream. Six (75%) of those swimming in a river, lake or stream mentioned that it was located in Alaska.

Ten (24%) respondents mentioned having worked in a day care center or having a child enrolled within two months prior to the onset of symptoms. Nine (90%) of those respondents were involved with the same day care center during the month of October. Other clusters of respondents were noted as nine (21%) having family or friends with similar symptoms.

Finally, both restaurant use and possession of pets were evaluated. A restaurant was visited at least once per month by 31 (74%) of the respondents. Twenty-nine (69%) used a "sit-down" type of restuarant; nineteen (45%) used a "fast-food" establishment. A total of 23 (55%) of the respondents noted having at least one pet. Of those with pets, 13 (57%) noted an indoor type and 10 (43%) noted an outdoor type.

Discussion

Inherent in any descriptive study based on existing records is the possibility of critical omissions. The methods of the laboratory survey allowed a cross-check of all results and the author feels that any omissions in this survey are non-critical. Note should also be made that *G. lamblia* was reported on examinations of ovum and parasties by the Division of Public Health Laboratories prior to 1969. However, because of controversy over its pathogenicity, *G. lamblia* was not reported consistently throughout all three regions until 1973.

Analysis of the laboratory survey data reveals that the Division of Public Health Laboratories are utilized by a population that may not reflect the entire Alaska population. The Alaska Native population represents approximately 16 percent of the total Alaska population[36,37]; whereas the laboratory survey population positive for *G. lamblia* was only nine percent Alaska Native. This difference may be due to the Alaska Area Native Health Service (AANHS) policy of utilization of the Division of Public Health Laboratories only on a contingency basis which baries within the three regions. Additionally, individual private physician utilization may vary due to the availability of other laboratory services within the regions.

Several factors must be considered when dealing with the increased reporting of *G. lamblia* from the Division of Public Health Laboratories. Alaska Department of Labor population estimates reveal an increase from 262,210 in 1969 to 416,400 in 1979, a 58.8 percent increase.[37] Yet total stool specimens examined for ova and parasites increased from 392 in 1969 to 1,896 in 1979, an increase of 383.6 percent. This may be a reflection of increased physician/practitioner awareness or a possible change in standard protocol. For example, 59 examinations positive for *G. lamblia* were repeated with 10 days of an initial exam. Fifty-five (93%) of these repeated examinations occurred in the last five years. Also, as the population has increased, the growth of residential and recreational areas may have infringed on areas of Alaska previously thought not to be endemic for *G. lamblia*. Acquired immunity has been suggested from studies in Colorado where short-term residents had higher attack rates than long-term residents.[7]

Craun[2] analyzed 23 giardiasis outbreaks that affected both visitors or campers and the usual residents of an area. Outbreaks among visitors occurred during the summer, with September and June as peak months, while those outbreaks among the usual residents occurred in later fall through early spring, with November, December and July as peak months. Results from the Division of Public Health Laboratories (Table II) reflect the former pattern of visitors/campers to areas of possible endemic *G. lamblia*. The October/September peak noted in the laboratory survey may represent a period after increased contamination of water supplies, or if the surface water is always contaminated, comsumption by larger numbers of susceptible individuals. The seasonal trend may also represent clusters of giardiasis in day care/nursery settings. Two such clusters were noted in the monthly reports in the SCRL though these particular clusters did not occur during October/September; theoretically such clusters could occur, as is evidenced by the October outbreak noted in the questionnaire data.

Care should be taken in any interpretation of the questionnaire results due to the lack of a control group. Also, the element of respondent recall should be considered. For even though the mean time transpiring between registry of a positive *G. lamblia* and final mailing of the questionnaire was 2.1 months, the range was from one to six months. The respondents may not be representative of the population of Alaska because 86% of the respondents note an address in either Juneau, Fairbanks or Anchorage while Labor Department figures show these areas to represent 66% of the total Alaska population.[37] This higher percentage of urban respondents may also reflect individual physician-utilization patterns. This population subset is in marked contrast to the 1950's Alaska village survey's subset which was largely rural Alaska Native peoples.

Sixty-seven percent of the respondents had travelled in Alaska and 82% of these travellers consumed untreated water. This is in agreement with studies in Minnesota[28] and Colorado[38] which have suggested untreated water to be a cause of endemic *G. lamblia* infection. The latter study utilized a matched control population and found overnight camping in the Colorado mountains and drinking untreated water in a higher proportion of cases than controls. Unlike other studies[27-30,5] only two respondents reported foreign travel in this study.

The questionnaire results reveal that 90% of the respondents reporting any contract with day care centers were involved with the same center during the same month. This cluster of cases raises the issue of person-to-person transmission. Other factors that were reported commonly are restaurant use, swimming and possession of pets. The presence of these latter factors reveals the need for investigation of *G. lamblia* in a case control study.

Conclusion

Review of the Division of Public Health Laboratories' records reveals *G. lamblia* has increased in both relative and absolute numbers during 1969-79. A seasonal peak was noted during the months of August, September and October. Sixty-seven percent of the total isolates positive for G. lamblia were recorded by the positive for *G. lamblia* were recorded by the Northern Regional Laboratory with 23% of the total positives from the Southcentral Regional Laboratory.

Questionnaires sent to giardiasis patients during 1979 revealed 67% of the respondents had travelled in Alaska within two months prior to the onset of symptoms. Eighty-two percent of those travelling in Alaska reported consumption/use of untreated surface water. In addition, a cluster of giardiasis patients was noted in one day care center. Care must be taken in interpretation of the questionnaire data due to the lack of a control group but the data suggests areas likely to be fruitful in controlled studies.

Table I

Frequency of positive *G. lamblia* by absolute number with percentage in parenthesis of the total examinations for ovum and parasites by Fiscal Year.

FY79	97	(5.1)
FY78	70	(4.3)
FY77	72	(4.7)
FY76	36	(3.6)
FY75	27	(3.3)
FY74	25	(3.6)
FY73	20	(2.7)
FY72	3	(0.5)
FY71	2	(0.3)
FY70	0	(0.0)
FY69	0	(0.0)

Table II

Frequency of positive *G. lamblia* by absolute number with percent positive of total specimens submitted in parenthesis by calendar month FY69-79.

January	19	(2.0)
February	19	(1.9)
March	21	(2.1)
April	13	(1.3)
May	29	(3.3)
June	20	(2.2)
July	29	(3.6)
August	38	(4.2)
September	55	(6.0)
October	59	(6.5)
November	28	(3.4)
December	25	(2.9)

Table III

Frequency of symptoms by absolute number with percentage of total respondents in parenthesis.

Loose stools	39	(93)
More stools	33	(79)
Gas (flatulence)	32	(76)
Loss of appetite	24	(57)
Fatigue	21	(50)
Weight loss	20	(48)
Cramps	18	(43)
Nausea	16	(38)
Weakness	16	(38)
Pain	15	(36)
Bloating	15	(36)
Fever-chills	11	(26)
Vomiting	9	(21)
Other	5	(12)

Table IV*

Frequency of parasites reported by the Division of Public Health Laboratories FY69-79 by absolute number with percentage in parenthesis of the total examinations for ovum and parasites for FY69-79.

I	Protozoa		
	Giardia lamblia	352	(3.3%)
	Entamoeba histolytica	19	(0.2%)
II	Non Pathogenic Protozoa		
	Entamoeba coli	110	(1.0%)
	Endolimax nana	24	(0.8%)
	Entamoeba hartmanni	8	(0.08%)
III	Nematodes		
	Enterobius vermicularis	41	(0.4%)
	Trichuris trichiura	37	(0.3%)
	Ascaris lumbricoides	30	(0.3%)
	Necator americanus	6	(0.07%)
IV	Trematodes		
	Clonorchis sinesis	7	(0.07%)
V	Cestodes		
	Diphyllobothrium latum	19	(0.2%)
	Taenia spp.	9	(0.08%)

*Those parasites noted in five or less specimens are not listed in this table.

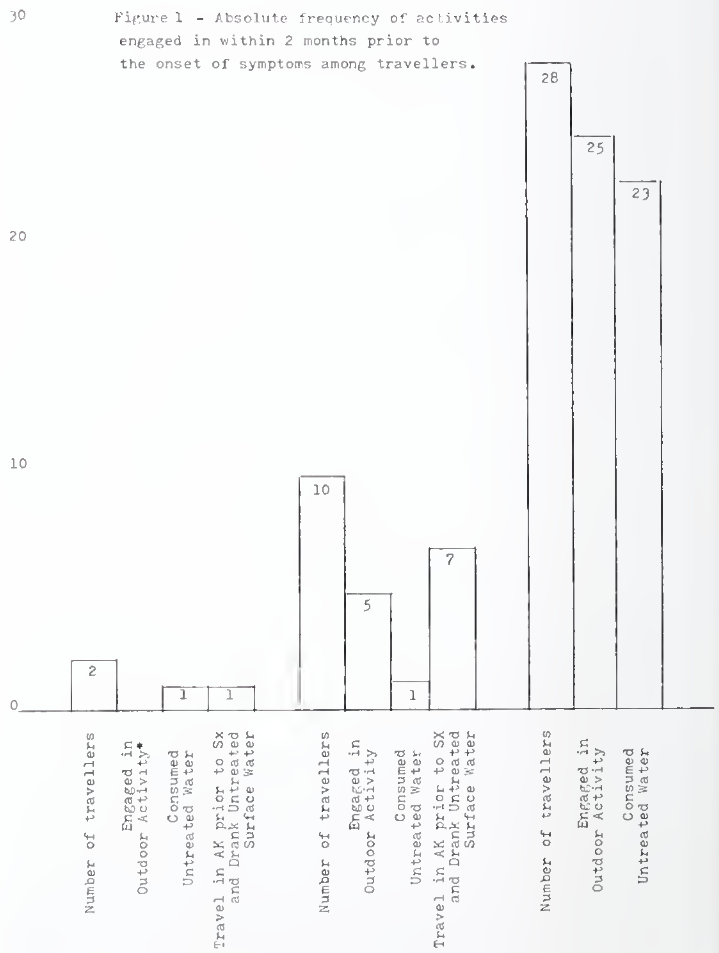

Figure 1 - Absolute frequency of activities engaged in within 2 months prior to the onset of symptoms among travellers.

* Question deleted

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PRESIDENT'S PAGE

David E. Johnson, M.D.

This is an exciting time to be in Alaska! Congressional action has at last brought resolution, if not total satisfaction, regarding land allocations. And Alaska is enjoying a natural resource related financial bounty that places it in a unique position indeed.

The challenge to statesmanship in a time of plenty is significantly greater than the challenge in time of need. In a period of retrenching and cutting back, we simply do what must be done and leave off anything we can do without. Now we have money to do everything we need to do, plus a lot of things we don't need to do and still have plenty left over for complete foolishness. Generations of Alaskans to come will look back upon this next decade as the time when we as Alaskans illustrated by our actions whether we were mature and intelligent in using the considerable resources we have been given.

In this background of excess monies available, the state of Alaska has undertaken a Comprehensive Health Care Service and Financing Study. The study is being done by two private consulting firms with an advisory board made up of representatives from health related fields and from the general public. Total funding for the project is approximately $150,000. Staffing at the state level is provided through the office of the Deputy Commissioner of the Department of Health and Social Services, Dr. Fred McGinnis.

The study is working on a timetable of having a preliminary report by approximately March 1st which will summarize the current situation in Alaska and lay out the widest possible number of alternatives for financing health care. From this wide range of possibilities, the advisory committee will pick two or three, turn these choices back to the consultants and have them bring a report by the 1st of December regarding the specific fiscal consequences of each of the proposed alternatives. These finished proposals could then become the basis for legislative proposals in the 1982 Legislature.

Some physicians have expressed concern that the study is nothing more than window dressing for a state version of socialized medicine. I believe that view is unnecessarily gloomy and would suggest rather that the study represents a real opportunity for improving health services in Alaska.

I believe we are doing a good job for our patients. I believe that we have more opportunity than any other part of the political process to enlist support for our positions. Each day we practice medicine we have the opportunity to demonstrate to our patients the superiority of a system where each individual selects his or her physician. If we continue doing the best job possible for our patients, they will find that arrangement sufficiently to their advantage that we have nothing to fear from those who would turn the system upside down.

If, on the other hand, we do not provide individual services appropriately and do not enlist our patients support then we have only ourselves to blame should others change the system to something we do not want.

In short, the study being undertaken is an opportunity to apply our considerable wealth toward evaluating, in a reasonable fashion, a number of fiscal alternatives. At the same time, our practices provide the opportunity to continue demonstrating the basic soundness of our current system. I find the opportunities for genuine improvement in health care financing exciting and look forward to continuing to represent the Association as these deliberations continue. I will do my best to keep you informed of the future deliberations.

Dr. Tokita is an otolaryngologist with the Fairbanks clinic.

AMA DELEGATE REPORT:

INTERIM MEETING

The Interim Meeting of the American Medical Association House of Delegates was held at the San Francisco Hilton Hotel, December 7-10, 1980. A creditable 274 of 279 delegates were seated. Sixty-nine reports and 86 resolutions were considered.

President David Johnson, Alternate-Delegate J. Ray Langdon and I were in attendance. It is our feeling that Alaska sends the highest proportion of its membership to the meeting. In this regard, David Johnson has been haranguing the AMA Leadership for a subsidy. So far the effort is not succeeding.

However, we continue to be either heard or felt. As delegate, I was appointed to Reference Committee E at the Interim Meeting. This committee dealt with matters in the categories labeled Scientific and Public Health. This service was of considerable value to me in that it became obvious that there were no preconceived conclusions, that well prepared debate can be very effective and that the staff support is knowledgeable and helpful.

The disadvantage to serving on the Reference Committee E was that I could not go to the other reference committees - perhaps to enter into the debate. J. Ray Langdon and David Johnson carried on this function for us. I should point out that any member of the AMA may attend the reference committee meetings and speak to the points being considered. On the House floor, of course, only the Delegates or Alternate-Delegates may debate.

There were many matters acted upon at the meeting, most of which were of concern to us. A few of these, which seem most pertinent, are briefly mentioned below.

Our own resolution, regarding the duty of physicians to patients rather than to third parties, continued to trouble the Board, the Reference Committee and the House. As a result, the Council on Medical Service has been requested to study further the issue of physician participation in third party payment programs.

The House adopted a resolution "to continue professionally directed efforts to ensure that care provided to patients is of high quality, appropriate duration and rendered in an appropriate setting at a reasonable cost, and to encourage the elimination of all government directed peer review programs including PSRO".

Similarly, the House voted for the AMA to support immediate cessation for the funding of the Health Planning Laws PL 93-641 and PL 96-79 and to cause repeal legislation to be introduced into the next (current) Congress. Note: the AMA will call upon the state medical associations for assistance in passing this legislation.

This new policy calls on the AMA to develop principles for a program of voluntary, locally-based health planning designed to address local needs with local resources.

As a result of a strong appeal by the Resident Physicians Section, the House rejected approval of new guidelines for accrediting graduate medical education. The existing Essentials of Accredited Residencies is remaining in effect.

The House adopted a resolution which is of some interest in certain of the controversies currently active in Alaska, to wit:

> Substitute resolution I-59 titled: Non-Physician measurement of Body Functions.
>
> "Resolve, that, in the public interest, the American Medical Association emphasize that non-physicians are not educated or trained to diagnose or to treat any abnormal conditions of the vascular and endocrine systems; and be it further
>
> Resolved, that, in the public interest, the AMA recommend that non-physicians who perform tests such as blood pressure or blood sugar measurements advise the examinee to communicate these findings to a licensed physician."

A resolution was adopted calling for the AMA to urge the Food and Drug Administration to place a moratorium on and hold in abeyance any extension of the program for implementation of patient package inserts until an orderly, interdisciplinary and collaborative educational program is initiated to evaluate the patient package insert concept.

A very important concept was embodied in a resolution which was adopted opposing federal proposals to regulate alpha-feto protein diagnostic kits. In this resolution there was 1) concern and objection voiced to the Department of HHS' current proposals to regulate the sale and use of AFP diagnostic kits and 2) also resolved that the legitimate concern for the sale and effective use of AFP in the complicated testing chain required for the identification of fetal neural tube defect be addressed as in Report I of the Council on Scientific Affairs (I-80). More important perhaps is the Third resolve that the AMA reaffirm its objections to the use of the Medical Device Amendments of 1976 as a means of controlling the practice of medicine.

Of note is the growing concern that though the AMA is currently in a growing financial condition, there is a great need to enlarge the AMA membership and likely there will have to be consideration of a dues increase in 1981 at the annual meeting.

I have now attended two meetings of the House of Delegates as your delegate. I am increasingly impressed with the democratic process embodied at these meetings. We are a small state but can be heard. Matters of great and grave importance to the practice of medicine are being considered and acted upon.

As many of you as can go to the annual meeting in Chicago in June should go and speak out on the issues.

Dr. Dan Cloud, the President-Elect, a pediatric surgeon from Phoenix, Arizona, will be present the last two days of the Alaska State Medical Association Annual Meeting at Glacier Bay. Please talk with him and tell him your feelings.

It is now time to consider matters of concern to us and to formulate our resolutions for the 1981 Annual Meeting. We have reason to be at least cautiously optimistic for the next four years. There was absolutely no communication between the White House and the AMA in the four years of the Carter Presidency. President Reagan has already met with the AMA Leadership to discuss important matters and concerns.

Richard L. Witt, M.D.
Delegate to AMA

GLACIER BAY MEETING SCHEDULE & ACTIVITIES

SATURDAY, MAY 23, 1981

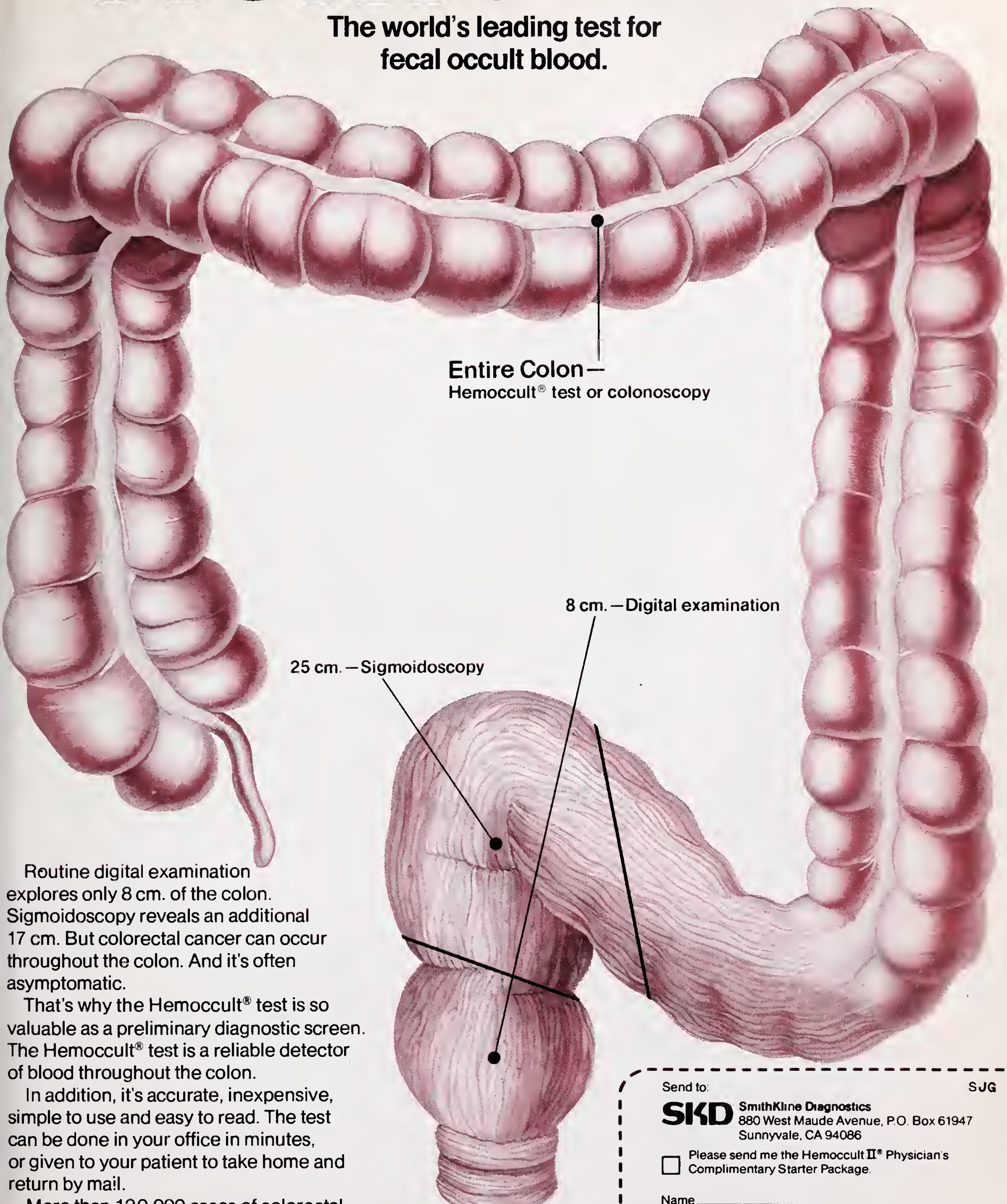
2:00 P.M. — 6:00 P.M.
Registration
4:00 P.M. — 6:00 P.M.
Council Meeting
5:00 P.M. — 7:30 P.M.
Dinner
6:30 P.M. — 7:00 P.M.
Exhibit Booth Selection and Set-up
7:00 P.M. — 8:00 P.M.
Park Service Film
7:00 P.M. — 9:00 P.M.
Slide Presentation & Lecture
"Recent Glacier Fluctuations and Earthquake Effects in Historic Time in Southcoast Alaska"
Maynard Miller, Ph.D

SUNDAY, MAY 24, 1981

7:00 A.M. — 9:30 A.M.
Breakfast
8:00 A.M. — 10:00 A.M.
ASMA Business Meeting
10:00 A.M. — 11:00 A.M.
William Y. Rial, M.D.
Speaker of House of Delegates
American Medical Assoc.
11:00 A.M. — 1:30 P.M.
Lunch
11:30 A.M. — 12:00 Noon
Professional Papers
"Giardia Outbreak in Dutch Harbor"
John Middaugh, M.D.
"Recent Trichinosis in Barrow"
Charles Ryan, M.D.
12:30 P.M. — 1:30 P.M.
ALPAC Annual Meeting
2:00 P.M. — 4:30 P.M.
ASMA Business Meeting
4:30 P.M. — 7:00 P.M.
Dinner
7:00 P.M. — 8:00 P.M.
Park Service Presentation
7:00 P.M. — 9:30 P.M.
Alaska Academy of Family Physicians
Annual Meeting
7:00 P.M. — 9:30 P.M.
Alaska Academy of Pediatrics
Annual Meeting
7:00 P.M. — 9:30 P.M.
College of Surgeons
Annual Meeting

MONDAY, MAY 25, 1981

6:00 A.M. — 9:30 A.M.
Breakfast



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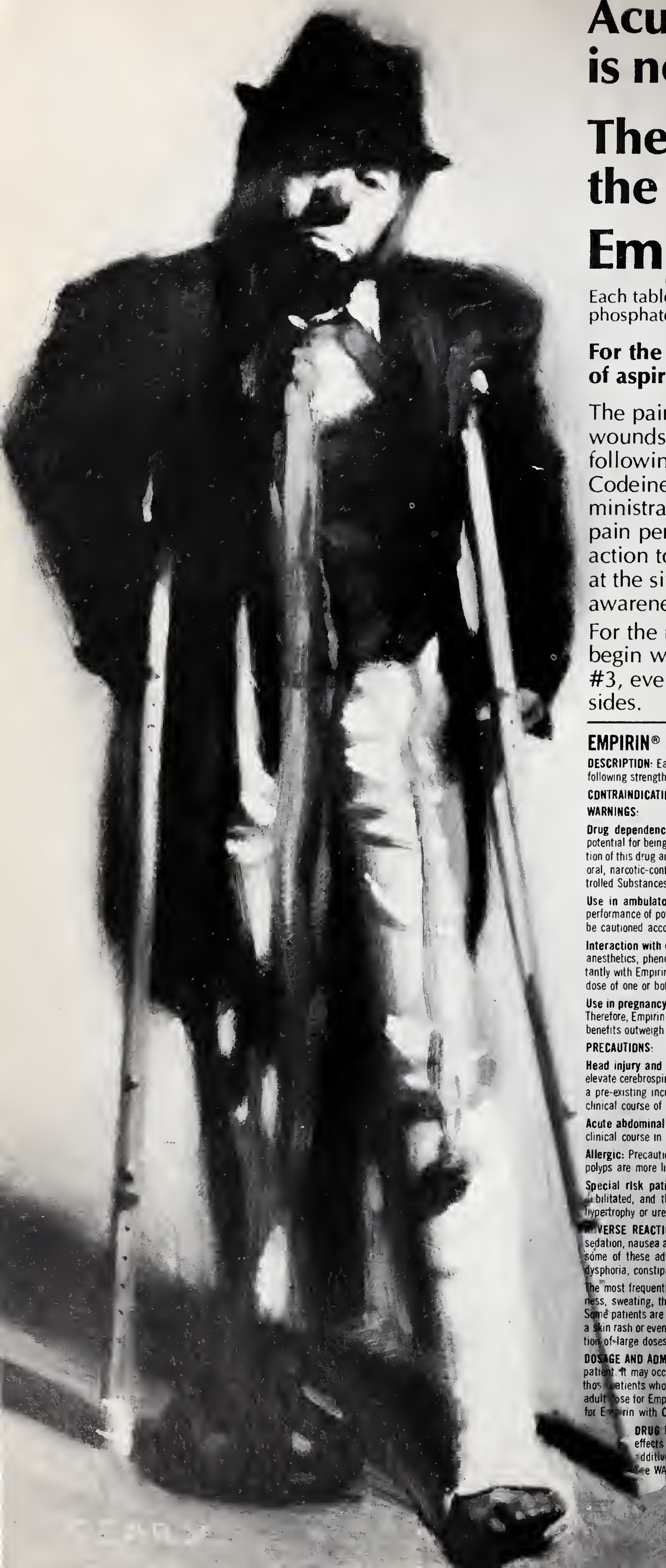

Acute pain is no laughing matter.

The first prescription for the first days of acute pai

Empirin® c̄ Codeine #3

Each tablet contains: aspirin, 325 mg; plus codeine phosphate, 30 mg, (Warning — may be habit-forming). Ⓒ III

For the millions of patients who need the potency of aspirin and codeine for their acute pain.

The pain of fractures, strains, sprains, burns and wounds is at its peak during the first three to four days following trauma. The potent action of Empirin c̄ Codeine begins to work within 15 minutes of oral administration, an important advantage during this acute pain period. Empirin c̄ Codeine has unique bi-level action to attack pain at two critical points: peripherally at the site of injury and centrally at the site of pain awareness.

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DESCRIPTION: Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg (Warning — may be habit-forming.) Ⓒ III

CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has t potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administra tion of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of othe oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Co trolled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for t performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug shou be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, gener anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, th dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal developme Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potenti benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity t elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure th clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies: patients with na polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly o debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostat hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients an some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphori dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspiri Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administ tion of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The us adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult d for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

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North Carolina 27709

7:00 A.M. — 3:00 P.M.
* 8 Hour Cruise
Feature Speakers:
Maynard Miller, Ph.D. - Glaciologist
Chuck Jurasz - Whale Researcher
Park Service
Aboard "Thunder Bay"
8:00 A.M. — 12:00 Noon
* "Natural History of a Medical Marriage"
Gordon Deckert, M.D. & Jane Deckert
11:30 A.M. — 1:30 P.M.
Lunch
1:30 P.M. — 4:30 P.M.
Open
Nature Hikes, Fishing, etc.
4:30 P.M. — 7:00 P.M.
Dinner
7:00 P.M. — 8:00 P.M.
National Park Service
7:00 P.M. — 9:00 P.M.
Lecture
Chuck Jurasz

TUESDAY, MAY 26, 1981

6:00 A.M. — 9:30 A.M.
Breakfast
7:00 A.M. — 3:00 P.M.
* 8 Hour Cruise
Feature Speakers
8:00 A.M. — 12:00 Noon
* Repeat Deckert Lecture
11:30 A.M. — 1:30 P.M.
Lunch
1:30 P.M. — 4:30 P.M.
Open
4:30 P.M. — 7:00 P.M.
Dinner
7:00 P.M. — 9:00 P.M.
"Blow of the Witches' Hammer"
Gordon Deckert, M.D. & Jane Deckert

WEDNESDAY, MAY 27, 1981

7:00 A.M. — 9:30 P.M.
Breakfast
8:00 A.M. — 10:00 A.M.
ASMA Business Meeting &
Award Presentations
10:00 A.M. — 12:00 Noon
Council Meeting
11:00 A.M. — 1:30 P.M.
Lunch
1:30 P.M.
Bus Departure for 1st Flight
1:30 P.M. — 4:50 P.M.
Open
4:50 P.M.
Bus Departure for 2nd Flight

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*Duplicate cruise and lecture series Monday & Tuesday.

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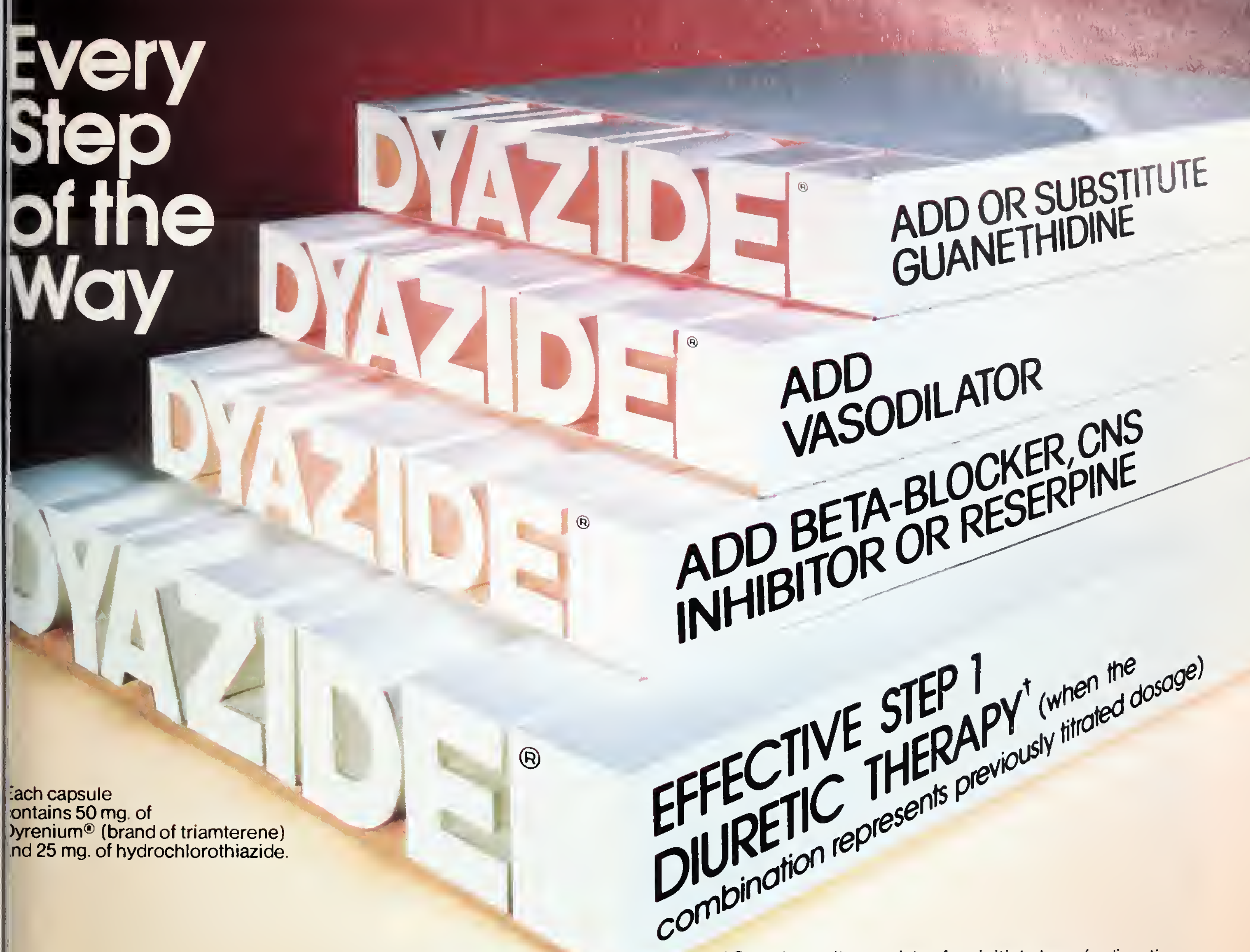
In Hypertension*...When You Need to Conserve K+


Every Step of the Way
DYAZIDE®
ADD OR SUBSTITUTE GUANETHIDINE
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DYAZIDE®
EFFECTIVE STEP 1 DIURETIC THERAPY† (when the combination represents previously titrated dosage)

ach capsule
ontains 50 mg. of
yrenium® (brand of triamterene)
nd 25 mg. of hydrochlorothiazide.

†Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K+ supplement or K+-sparing agent and a maintenance phase (a diuretic alone or in combination with a K+ supplement or K+-sparing agent).

Serum K+ and BUN should be checked periodically (see Warnings).

lefore prescribing, see complete prescribing nformation in SK&F Co. literature or *PDR*. A brief ummary follows:

WARNING
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant

ontraindications: Further use in anuria, progresive renal or hepatic dysfunction, hyperkalemia. re-existing elevated serum potassium. Hypersensiivity to either component or other sulfonamideerived drugs.

Varnings: Do not use potassium supplements, ietary or otherwise, unless hypokalemia develops r dietary intake of potassium is markedly impaired. supplementary potassium is needed, potassium ablets should not be used. Hyperkalemia can occur, nd has been associated with cardiac irregularities. is more likely in the severely ill, with urine volume ess than one liter/day, the elderly and diabetics with uspected or confirmed renal insufficiency. Periodcally, serum K+ levels should be determined. If yperkalemia develops, substitute a thiazide alone, estrict K+ intake. **Associated widened QRS comlex or arrhythmia requires prompt additional herapy.** Thiazides cross the placental barrier and ppear in cord blood. Use in pregnancy requires veighing anticipated benefits against possible azards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K+ frequently; both can cause K+ retention and elevated serum K+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in postsympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components.

Supplied: Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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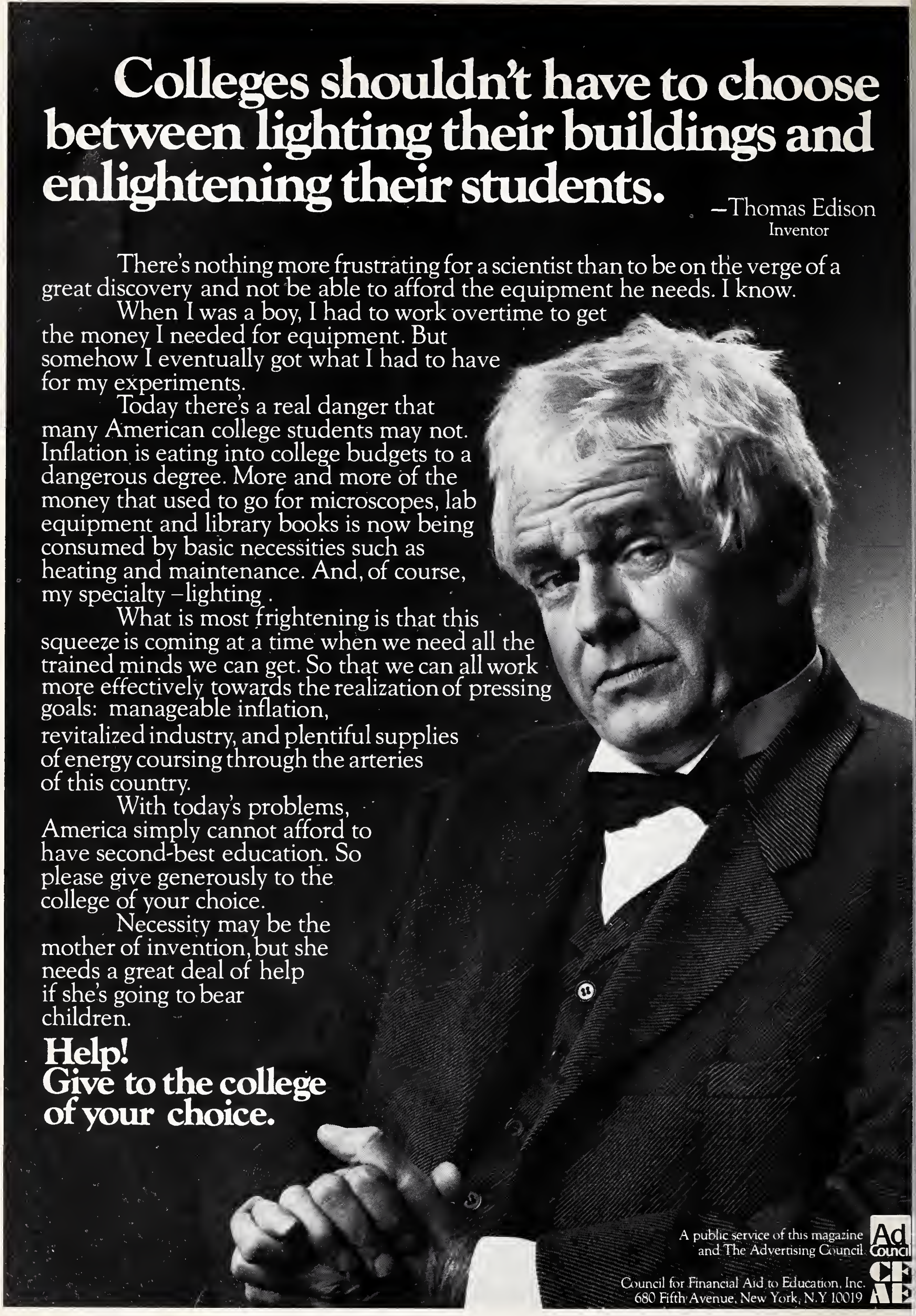

Colleges shouldn't have to choose between lighting their buildings and enlightening their students.

–Thomas Edison
Inventor

There's nothing more frustrating for a scientist than to be on the verge of a great discovery and not be able to afford the equipment he needs. I know.

When I was a boy, I had to work overtime to get the money I needed for equipment. But somehow I eventually got what I had to have for my experiments.

Today there's a real danger that many American college students may not. Inflation is eating into college budgets to a dangerous degree. More and more of the money that used to go for microscopes, lab equipment and library books is now being consumed by basic necessities such as heating and maintenance. And, of course, my specialty –lighting .

What is most frightening is that this squeeze is coming at a time when we need all the trained minds we can get. So that we can all work more effectively towards the realization of pressing goals: manageable inflation, revitalized industry, and plentiful supplies of energy coursing through the arteries of this country.

With today's problems, America simply cannot afford to have second-best education. So please give generously to the college of your choice.

Necessity may be the mother of invention, but she needs a great deal of help if she's going to bear children.

**Help!
Give to the college of your choice.**

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Health and Safety Tip
From the American Medical Association

535 North Dearborn Street/Chicago, Illinois 60610

Asthma Patients Find Breathing Difficult

Asthma Hits Many

Asthma means a physical condition in which the sufferer has a very hard time breathing.

Asthma, says the American Medical Association's Handbook of First Aid and Emergency Care, results from the narrowing of the airway bronchial tubes.

Often, but not always, an attack results from exposure to something to which the victim is allergic. Infections, colds, changes in the weather or emotional factors also can lead to an attack.

Symptoms of asthma are difficulty in breathing out, or exhaling; a wheezing or whistling sound as air is expelled; nervousness, tenseness and fright; coughing; heavy perspiring; nausea and vomiting; bluish tinge to the skin due to lack of oxygen; victim finds it's easier to breathe sitting upright; choking sensation.

If it is the first episode of suspected but undiagnosed asthma, seek medical attention. If a doctor cannot be reached, take the victim to the nearest hospital. Comfort and reassure the victim, particularly a child who may be frightened by the experience, since emotional stress may make the condition worse. Keep the victim sitting upright.

If attacks have occurred before, give the victim the prescribed medications according to his doctor's instructions. Do not give the victim anything else without physician's advice. Report the attack to the physician, even if the victim seems better after a day.

Some asthma symptoms demand immediate medical attention. This happens if the medication fails to improve breathing; if breathing can barely be heard; inability to cough; increased bluish tinge to skin; pulse rate more than 120 beats per minute; increased anxiety; victim tries to pull up shoulders and chin to get air.

These symptoms mean the victim is near collapse from respiratory failure, and needs help at once from the doctor or nearest hospital emergency room.

April, 1981
Frank Chappell
Science News Editor
AMA

ROCHE

For recurrent attacks of urinary tract infection in women

Bactrim™ DS Double Strength Tablets

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

Just one tablet b.i.d. for 10 to 14 days

- Action at urinary/vaginal/lower bowel sites helps eliminate reservoirs of infecting organisms
- Distinctive antibacterial action plus wide spectrum helps eradicate recurrent UTI
- Low incidence of bacterial resistance in community practice
- Convenient *b.i.d.* dosage provides day-and-night antibacterial control
- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* **It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination.** *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register, 37*:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections: Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

Pneumocystis carinii pneumonitis: Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

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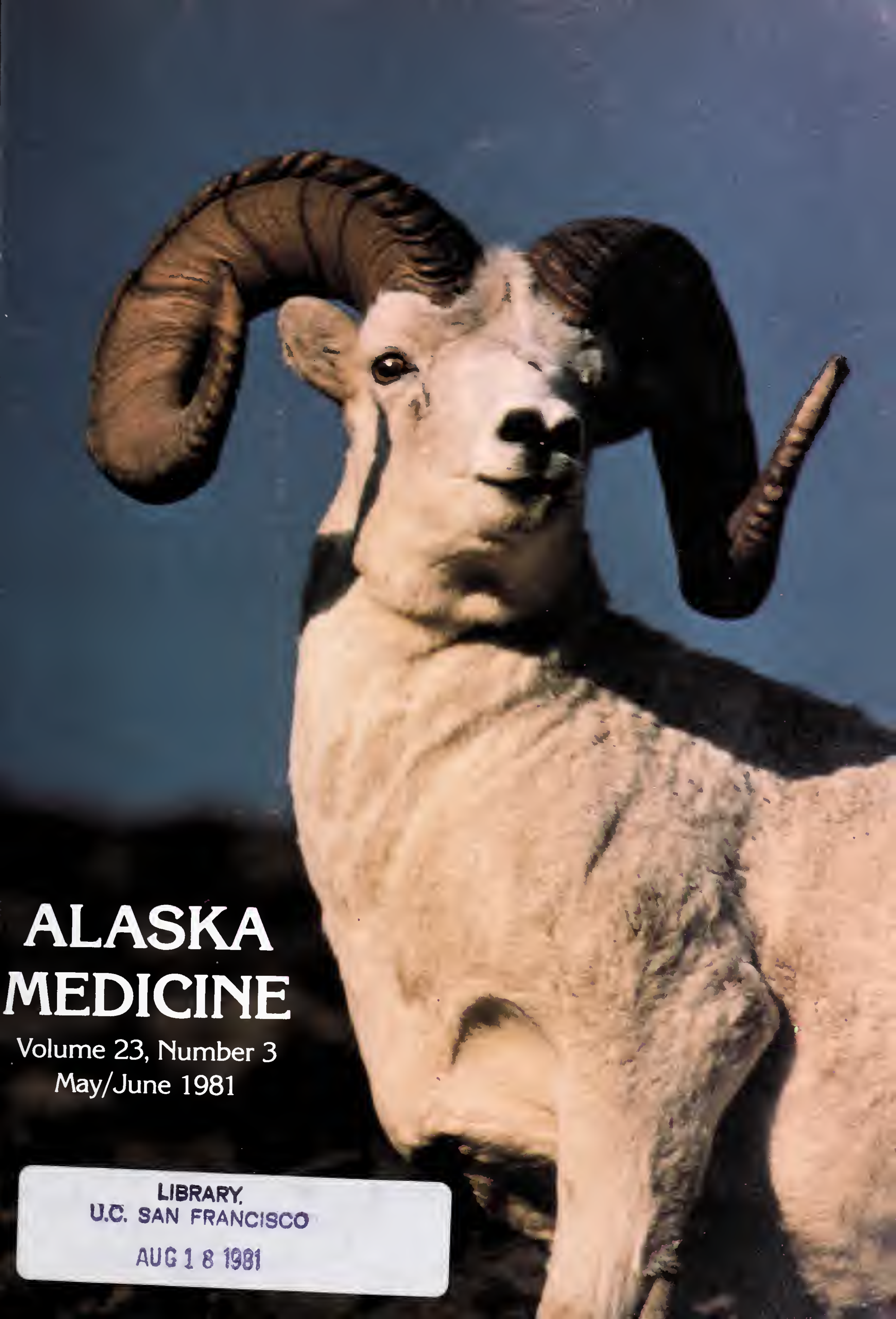

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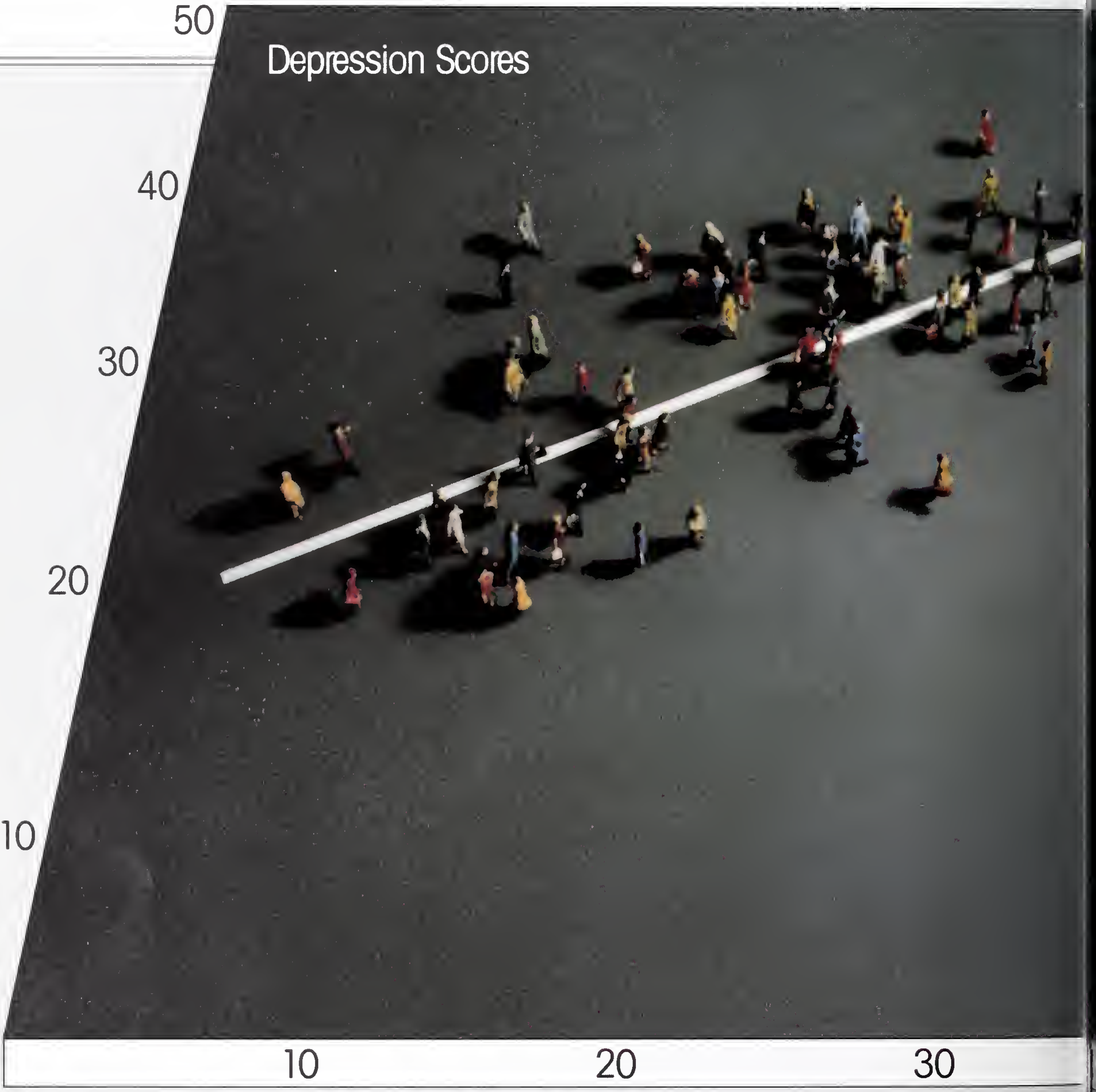

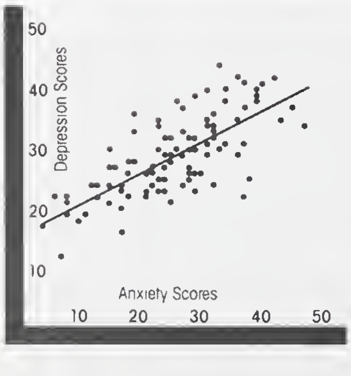

Clear correlation between anxiety and depression[3]

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male; 36 female) seen at a general psychiatric clinic.

[3] Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics 11*:438-441, Sept-Oct 1970.

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Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.[1,2] One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.[3] As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.[4] Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

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References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. **2.** Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry 35*:1359-1365, 1978. **3.** Claghorn J: The anxiety-depression syndrome. *Psychosomatics 11*:438-441, 1970. **4.** The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry 137*:1163-1172, 1980. **5.** Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology 61*:217-225, 1979.

In moderate depression and anxiety

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Please see summary of product information on next page.

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Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved Contraindicated during acute recovery phase following myocardial infarction

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses Myocardial infarction and stroke reported with use of this class of drugs) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e g , operating machinery, driving)

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide)

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period Not recommended in children under 12

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects

Adverse Reactions: Most frequently reported are those associated with either component alone drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs

Cardiovascular Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns

Anticholinergic. Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract

Allergic Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

Hematologic Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

Endocrine Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels

Other Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

Overdosage: Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h s* dose may suffice for some patients Lower dosages are recommended for the elderly Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses

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HEALTH PLANNING IN ALASKA:

A NEW AGENDA FOR THE 80's

Mim Dixon

Among the budget cuts anticipated from President Reagan is federal support for health planning agencies created by the "National Health Planning and Resources Development Act of 1974" (P.L. 93-641). The legislation enacted in 1975 required each state to designate a State Health Planning and Development Agency (SHPDA) and a Statewide Health Coordinating Council (SHCC). P.L. 93-641 also established Health Systems Agencies (HSA's) for regional areas. In addition to the SHPDA and SHCC, three HSA's were created in Alaska.

Approximately $2.2 million are spent for the activities of the three HSA's, the SHCC and SHPDA in Alaska. These budgets are funded 70 percent by federal dollars and 27 percent by state dollars (see Figure 1). As with many federal programs which are being withdrawn from Alaska, program administrators and their constituents will likely request the state legislature to replace the federal contribution with state revenues to assure continuation of the program.

The Alaska State Legislature has several alternatives which it can pursue in determining the fate of these health planning agencies. In this time of state budgetary surplus, the easiest course for the legislature is to provide $2.2 million in state funding to sustain the agencies, at least on a temporary basis, until an adequate assessment can be made of their current and potential roles in the state. The "sunset" process could require a review of the agencies' performances in the next year prior to a determination of the ultimate fate of the organizations. A second alternative is for the legislature to maintain the agencies at the present level of state funding with a slight increment consistent with the Governor's budget guidelines. This would reduce the agencies to providing skeletal programs and/or force them to use the state resources to plan their reorganization prior to increased funding the following year. A third alternative is for the agencies to develop re-organization plans and new agendas which are more responsive to state needs for legislative review during this session. Finally, the Legislature could decide to support the Reagan policy of dismantling the organizations by failing to provide any funds for their continued support.

To analyze these alternatives, the Legislature will likely be asking the following questions:

1. What are the reasons that the federal government plans to eliminate the health planning agencies established by P.L. 93-641?
2. Is there a need for health planning agencies in Alaska?
3. Is it more cost-effective and politically acceptable to adapt the existing agencies to meet the needs of the state or to create new agencies to meet those needs?

From the perspective of an outside observer, this analysis attempts to address those questions briefly and to suggest some items which may be on the agendas of health planning agencies in Alaska in the next decade.

Why is the federal government pulling out?

The Reagan Administration has not supplied a rationale for each of its proposed budget cuts beyond the overall philosophy of its economic policy. However, current national political trends to reduce the federal budget and regulatory role of government make health planning agencies an easy target.

Underlying the political support for P.L. 93-641 was the goal of controlling the ever-increasing costs of health services in the United States both to reduce the growth in the Medicaid and Medicare budgets and to prepare for a national health insurance program. It seems doubtful that a national health insurance program would be advanced by the present congress and

Associate Professor of Medical Science, WAMI Medical Education Program, University of Alaska, Fairbanks, Alaska

administration, thereby removing one underlying objective of the health planning agencies. Also President Reagan has taken a more direct approach to reducing the federal Medicaid budget.

Furthermore, the philosophy integral to the health planning activities of P.L. 93-641 has been to avoid duplication of costly medical technologies and services in a given area and thereby reduce costs through higher utilization. This approach appears to be philosophically antithetical to the conservative Republican economic models which rely upon competition to reduce costs. Another feature of P.L. 93-641 which could make it inherently politically uncceptable to the new administration is that it requires states to pass "Certificate of Need" legislation which restricts the private sector from making new investments in health care facilities and equipment without posing the same limitations on the federal government.

Is there a need for health planning agencies in Alaska?

The need for health planning in Alaska has probably never been greater than during this present period of rapid change. In its unique position of having a surplus of state revenues, the Alaska Legislature is finding that proposals for state spending are far exceeding the abundant revenues. While the Legislature has focused its attention on issues related to resources development, expansion of the physical infrastructure within the state and investment policies, most legislators acknowledge the unmet need to address "human problems." Perhaps now more than ever before the Legislature needs advice on how to spend its resources in a prudent and effective manner to reduce the suffering in Alaska from our major health problems: alcoholism, accidents, violence in the home.

Health planning agencies are in an excellent position to provide this advice. The comprehensive health planning which they have performed in the past five years has sought means to address these problems at a time when budgets were tight and there was a need for prudent planning. Furthermore, the health planning agencies have developed mechanisms for formulation and review of their plans by a broad cross-section of individuals who represent both consumers and agencies from diverse geographic areas of the state.

Recent developments in Alaska and the nation are changing the social, economic and political context for health care. Among these developments are the following:

> Recent oil wealth and state budget surplus in Alaska.
>
> Growing national need for domestic energy resources which is stimulating development of those resources in the Western States and the Outer Continental Shelf.
>
> A combination of escalating fuel costs and the deregulation of the airline industry which is increasing the cost of air transportation and decreasing the number of scheduled commercial flights.
>
> National political trends which indicate reduced federal expenditures for health and social services, federal deregulation and a more powerful role for state governments.

These trends have significant implications for the future of health care delivery systems in Alaska which potentially creates a whole new agenda for health planning activities. Issues which have not been addressed previously in Alaska must be. Change can be very disruptive unless there is adequate planning and coordination. There are many health care delivery systems and many constituencies in Alaska which must be included in the planning processes to assure equitable outcomes.

The question asks is there is a need for health planning "agencies" in Alaska. The implication is whether the health planning needs in Alaska can be met by a single statewide agency, most likely located in the Alaska Department of Health and Social Services, or whether the needs can be better met through several regional agencies. Nearly every area of state government acknowledges the diversity of geographic regions in Alaska, the need for decentralization in planning and policy development and the importance of broadly representative citizen participation. This usually requires several regional advisory boards, rather than a single statewide advisory committee. For advisory groups to be effective, they usually require staff and budgets over which they have control. If "agency" is defined in this broad context as an organization with a board of directors, staff and budget, then there is probably a need for more than one health planning agency in Alaska. The specific structure and staffing of these agencies, however, need not be the same as that prescribed by P.L. 93-641.

Adapting existing agencies versus creating new agencies to meet state needs

At the present time, it may be very difficult for the health planning agencies created by P.L. 93-641 to justify their continued existence as state programs. The organizations were forced upon the state originally under the threat of discontinuation of federal funds for health programs.[1] Without this threat, the incentive to continue the organizations may be dimished considerably.

Furthermore, the goals, agendas and work plans of these agencies have been derived from federal guidelines. Alaska and some other Western states have argued that the federal guidelines are not appropriate because health care institutions in those states are underdeveloped rather than superfluous. Federal regulations require HSA's and the SHPDA to produce massive health systems plans, annual implementation plans and grant applications on an annual basis. Generation of this paperwork has in turn influenced the staffing and accomplishments of the organizations.

At the present time, the activities of the health planning agencies in Alaska can be characterized as fine-tuning the existing health care delivery systems in

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compliance with regulations promulgated by federal agencies to further P.L. 93-641. Since the majority of funding for HSA's, SHCC and SHPDA comes from federal sources, they are obligated to structure their planning agendas in response to these federal mandates. Furthermore, they are obligated to structure their organizations according to federal guidelines.[2]

The argument could be made that the growing trend for the private sector to use health planners[3] has diminished the need for public sector planners and that the health planning needs in Alaska could be met through the private sector rather than continuation of existing governmental and quasi-governmental health planning agencies. There are two types of health planners in the private sector in Alaska.

The first type of health planner has been hired by agencies which provide health care services primarily to write grants and to respond to the massive paperwork requirements of state and federal legislation. While this type of health planner may participate in interagency activities, the role of this individual is clearly to serve the organization which employs him or her and this creates an inherent conflict of interest for comprehensive health systems planning.

The second type of health planner in the private sector is the private consultant. One might anticipate a growth in the number of private consultants as a result of President Reagan's budget cuts. However, private consultants can only provide health planning services if they are hired by clients. While the organizational structure of health planning agencies in Alaska could be altered to rely more extensively upon private consultants than internal staff, the agencies must be continued in order both to hire the private consultants and to provide direction, review and implementation for the planning products.

One of the major goals of health planning agencies is to achieve some degree of consensus on future activities of organizations and institutions. This can be done only by an organization which has been carefully structured to be representative and politically acceptable particularly when the issues involve the distribution of public funds.

While the concept of P.L. 93-641 may be politically unacceptable in the national sphere, agencies created under that law have achieved a high level of acceptability in local political spheres. Each of the three HSA's in Alaska has a Board of Directors at least 51 percent of whom are heatlh care consumers. A relatively high turnover in consumer representation on the Boards of Directors of the HSA's and the 30-member SHCC (which is also over 51 percent consumers) has created a relatively sophisticated network of health care consumers throughout the state who are familiar with problems of health and the delivery of health services and committed to improvements through the processes developed by health planning agencies.

Health planning agencies have also provided a forum for health care providers from diverse agencies and professions to communicate, coordinate and resolve existing and potential conflicts. In a state as large as Alaska with as many health care institutions, the value of this formal association and the accompanying informal interactions cannot be underestimated. To start from scratch to develop new organizations may be demoralizing to the individuals who are expected to participate in them when they have already made significant investments in existing organizations. Furthermore, new organizations take time to develop by-laws, staff, operating procedures and working relationships.

Both the state and federal government have invested several million dollars in the development of health planning agencies under P.L. 93-641. More importantly, the voluntary board members and professional staffs of the agencies have invested an enormous amount of time and emotional energy in developing organizations which are functional and politically acceptable. On the one hand, these investments may have created organizations which are too rigid to adapt from federal directives to a state orientation. On the other hand, these investments may have lain the groundwork for effective organizations which are capable of responding to new agendas.

New agenda items

Consistent with federal goals, the current goals of Alaska's health planning agencies have been to encourage prevention of health problems through an emphasis on health education, to allocate new technology within existing systems without unnecessary duplication and to achieve levels of health care considered appropriate for community size and function. The challenge for health planning agencies in Alaska today is to develop an agenda for the next decade which will address the major changes anticipated in the state and assist in planning health services which are appropriate and responsive to those changes. In the short-term, this requires not only a reformulation of goals but also a restructuring of the health planning agencies to address these new goals with the necessary expertise and with organizations which are streamlined to be efficient and responsive.

The following is a sampling of items which may be on the agendas of health planning agencies in Alaska in the 1980's.

Item 1: Planning for boroughs to replace native non-profit corporations in the provision of health services

The Alaska constitution requires that the state be divided into regional areas called "boroughs."[4] Some of the areas were expected to have regional governments titled "organized boroughs."[5] Areas without regional government were called "unorganized boroughs" and the state legislature was to serve in the capacity of the Borough Assembly. By law, all first and second class boroughs have the following powers: 1) education 2) assessment and taxation and 3) planning, platting and zoning.[6] Through prescribed procedures, boroughs may also adopt other powers such as the provision of health services.

Despite repeated attempts by the Alaska State Legislature to organize the unorganized boroughs,[7] in most areas of the state rural residents have adamantly opposed the formation of local government. The reasons for this opposition has been two-fold: 1) people do not want to be regulated by another level of government particularly with regard to land use and 2) people do not want to pay additional taxes to support local government services. The changing political and economic situations within Alaska may eliminate the basis for this opposition to borough government. Through the establishment of Regional Education Attendance Areas (REAA's)[8] and Coastal Resource Service Areas (CRSA's),[9] some borough functions have already been assumed on a regional basis with local control, thereby making these functions more acceptable and developing the local expertise for future leadership roles in borough government.

State oil wealth may eliminate the need for local taxation thus removing the opposition to borough government on that premise. Certainly, state school foundation support will continue to grow as well as state capital expenditures for projects including schools and other public facilities which may become the debt-free property of newly-created boroughs. Pipelines and Outer Continental Shelf oil development may provide an incentive for local government to reap the benefits of those tax bases rather than forfeit them to the state. However, it is doubtful that any other area of Alaska will have a tax base the magnitude of the Prudhoe Bay tax base which has funded the North Slope Borough government. Nevertheless, the North Slope Borough does represent a prototype model for resource development providing a tax base to stimulate the formation of local government.

While erasing the disincentives for local government, resource development also may create new incentives for local government. Population growth resulting from resource development will change the distribution of population in Alaska so that a larger percentage of rural residents are non-Natives. This group currently has no representation in governmental and quasi-governmental organizations in rural areas such as village councils formed by the Indian Reorganization Act (IRA Councils) and Native profit and non-profit corporations. Because Natives and non-Natives currently do not have equal access to and control over local decisions and services, there will be a growing demand for greater participation by non-Natives. Natives will likely resist relinquishing political and economic control in the face of losing majority status and becoming minority populations in those areas. At the same time, resource development will intensify the demand for services which are more appropriately administered at the local level than by state government.[10]

As a result of these forces and the recent efforts in the State legislature and administration to plan to organize the unorganized borough,[11] it may be predicted with a fair degree of confidence that there will be more organized boroughs in rural Alaska in the near future. Although borough governments have no requirements to assume health care functions, other forces suggest that boroughs will replace Native non-profit corporations as regional health providers.

One might anticipate diminished funding for the Indian Health Service, possible even termination of Indian Health Service programs in Alaska, as a result of policies of the Reagan administration to reduce government spending. There is acknowledgement of this alternative in the Alaska Native Claims Settlement Act.[12] Also there is a national perception that the State of Alaska can afford to provide these services. If the Indian Health Service budget in Alaska is cut, then the operating budgets of the Native non-profit corporations also will be cut. Reduced budgets will result in reduced services in rural areas. At the same time, there likely will be an increased demand for health services from the growing populations in those areas. Boroughs may have access to revenues to provide health services at a time when funding for Native non-profit corporation health services is scarce, thereby facilitating the transfer of responsibility for health services from the Native non-profit corporations to boroughs in rural areas.

Anticipating the emergence of borough governments in rural areas of Alaska, the established health systems agencies can identify the potential alternatives for the delivery of health services and assist in defining the appropriate roles for existing agencies and future agencies. Competition for limited resources and resultant hostilities could be avoided through the HSA's acting effectively in mediating and planning roles.

Item 2: Assisting the State of Alaska in developing a health insurance program

Proposals have already been introduced in the Alaska State Legislature which would create a state health insurance plan.[13] State oil wealth make this approach economically feasible and there appears to be political support for it.

Alaskans are becoming increasingly aware that present schemes to return the state's oil wealth to its citizens through cash disbursements result in greater federal personal income tax. Because there is no cost of living adjustment in the federal tax, Alaskans already pay a disproportionate federal income tax relative to their real incomes. One could therefore anticipate a growing demand by Alaskans to redistribute the state oil wealth by reducing the cost of living in Alaska through the subsidy of high cost goods and services, such as transportation, energy and health care, which would not be considered taxable income by the federal government.

It is likely that the existing proposal could be expanded to provide health insurance coverage for all Alaskans similar to a national health insurance program. A comprehensive state health insurance

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program would change the financing structure for health care in Alaska. This would likely stimulate the growth of the private sector of medicine and promote the decline of the Indian Health Service in Alaska. It would also provide greater third-party coverage for heatlh services provided by the National Health Service Corps and local governments in rural Alaska.

Health systems agencies could serve the state by providing detailed planning documents which would show the implications of alternative state health insurance programs for the health care delivery systems in their regions. These documents could then be subjected to a review process which would assist in the selection of the most appropriate alternatives and facilitate an orderly transition.

Item 3: Planning health systems response to changing transportation patterns in Alaska

The combination of high fuel prices and deregulation of the airline industry in the United States will have a significant effect on transportatin patterns in Alaska. With a high degree of certainty, one can anticipate reduced airline services and increased costs for air transportation both within Alaska and between Alaska and Seattle.

Within the state, one possible implication is that there will be a shifting reliance from air to surface modes of transportation. The Alaska Legislature and Governor have committed the state to using its budget surplus for capital improvements and roads historically have been desirable capital projects. Current needs assessments suggest a strategy of connecting communities within regions to the regional centers by surface transportation rather than the previous strategy of connecting regional centers with urban centers by roads.[14] Since these are smaller projects they may be more politically acceptable. At the same time, resource development, trucking and Teamster interests will likely provide political pressure to extend the highway, marine highway and railroad systems in Alaska.

The implications of an expanded road and highway system in Alaska upon heatlh and the delivery of health services are two-fold. First, more roads will mean more highway traffic accidents in rural Alaska which will require an expanded emergency medical service system and one which is adapted to surface, rather than air, transportation of victims. Secondly, surface transportation within a region may change the accessibility of health services and thereby the criteria for distribution of health services. The goals for distribution of health services in rural Alaska may more closely approximate those in the "lower 48" states (i.e. 30-minutes driving time to a health care provider) which may in turn change the desired service delivery patterns.

In the event that surface transportation does not flourish, the higher cost of air transportation may have other implications for the delivery of health services. When one considers the cost of tranporting patients as part of the cost of health care, it may become more economically feasible to locate more sophisticated medical practitioners in remote areas than to evacuate patients to a regional or urban center. Similarily, the high cost of transportation may create a greater demand for sophisticated medical services in the urban areas of Alaska reducing the reliance upon Seattle as a medical center for Alaskans.

At the present time there is an unmet need for health planners to work in conjunction with transportation planners to anticipate the demands for health services generated by changes in the transportation systems in Alaska. Within this context, the concept of levels of care which has been the basis of health planning in Alaska may have to be revamped and assessments of health manpower needs revised.

Item 4: Planning for the growth of industry in Alaska

The national demand for domestic resource development will create a growth in the extractive industries in Alaska. This, in turn, will create greater needs for planning in the area of industrial health. Little attention has been given to industrial health in Alaska because it has been assumed that industry is largely non-existent in this state in which more than a third of the employment is in the public sector.

Industrial health issues in Alaska differ from those that predominate in the rest of the states. For example, in Alaska the workplace is generlly not a factory but the out-of-doors. Accident patterns in factories are likely to be very different from accident patterns in logging camps and construction sites. The natural environment is a greater factor in industrial health in Alaska posing problems such as hypothermia. Work sites in Alaska are relatively isolated and, therefore, workers do not have access to health services usually accessible to workers in urban areas. Also, there may be some unique mental health and social problems associated with the social context of work in isolated places in Alaska: workers are separated from their families for extended period of time; living conditions lack privacy and autonomy; daily and weekly working hours are often longer than the standard 8-hour day and 40-hour week; and workers do not have control over aspects of their daily life such as food, social associations, recreational opportunites, spatial relationships and decor in the living environment.

Because of these unique aspects of industrial health in Alaska, the growth of industrial employment in the state will create a growing need for research related to industrial health. Greater state involvment in socio-economic planning for large-scale resource development and a greater awareness by private industry will increase the demand for industrial health planning in the state. The future role of health systems agencies with regard to industrial health may lie in the coordination of industrial health programs with other health programs in the state.

Figure 1

Sources of Revenues for Health Planning Agencies
FY81[1]

	Federal[2] Funds	State Funds	Contracts, Interest & Other	Total
Health Systems Agencies				
Northern Alaska Health Resources Assoc.	349,377	100,000	30,000[3]	479,377
South Central Health Planning & Development	390,291	100,000	12,120	502,411
Southeast Alaska HSA	369,038	100,000	12,500	481,538
Subtotal	1,108,706	300,000	54,620	1,463,326
Statewide Health Planning (SHPDA & SHCC[4])	432,846[5]	299,700	-0-	732,546[6]
Total Expenditures	1,541,552	599,700	54,620	2,195,872
Percentage of Total	70.2%	27.3%	2.5%	100%

1. The fiscal year periods for the HSA's are somewhat unconventional since they are dependent upon the date at which the federal government officially "designated" the agencies. Because the HSA's begin their fiscal years late in the federal budget cycle, the effects of a federal budget cut would not be felt for nearly one year. Thus, if the federal government eliminates funding for HSA's in the federal fiscal year beginning October 1981, the HSA's in Alaska could continue their operations through their 1982 fiscal year.

2. The federal government has provided a minimal grant of $255,000 to each HSA. Additional federal funds have been made available to HSA's which serve large geographic areas. The federal government also provides matching funds to HSA's which received state support in the preceding fiscal year.

3. This figure does not include interest.

4. The budget for the Statewide Health Coordinating Council is a component of the State Health Planning and Development Agency. In FY81, the SHCC budget was $87,000, which is 12.8 percent of the SHPDA budget.

5. Federal funding for SHPDA activities (including SHCC) totalled $432,846 in FY81, of which $47,746 were for indirect costs.

6. This figure included "indirect costs" for SHPDA activities funded by federal sources. The Alaska Department of Health and Social Services does not include these indirect costs in their budget for SHPDA which is based upon direct support totalling $684,800.

FOOTNOTES

1. P.L. 93-641 states in Sec. 1521(d):

> "If, upon the expiration of the fourth fiscal year which begins after the calendar year in which the National Health Policy, Planning and Resources Development Act of 1974 is enacted, an agreement under this section for the designation of a State Agency (SHPDA) for a State is not in effect, the Secretary (of Heatlh, Education and Welfare) may not make any allotment, grant, loan, guarantee, or enter into any contract, under this Act, the Community Mental Health Centers Act, or the Comprehensive Alcohol Abuse and Alcoholism Preventions, Treatment, and Rehabilitation Act of 1970 for the develop-ment, expansion, or support of health resources in such State until such time as such an agreement is in effect."

Title XVI of the Act, entitled "Health Resources Development," provides federal financial assistance for the construction and modernization of inpatient and outpatient medical facilities. The procedures established by the Act, require that a state develop a Medical Facilities Plan which is approved by the Statewide Health Coordinating Council before entities within the state can receive federal assistance.

2. P.L. 93-641 stipulates in Sec. 1512(b)(2) that the size of the professional staff of any health systems agency shall not be less than five. The law further designates the types of expertise to be represented in the professional staff. Sec. 1512(b)(3) requires that the governing body for health systems agencies be comprised of not less than 10 members nor more than 30 members and details explicit rules for the composition of the membership. The law requires the governing bodies of HSA's to meet at least quarterly and specifies various operating procedures. Similarly, Sec. 1524 requires the Statewide Health Coordinating Council to have a minimum of 16 members, stipulates the formula for composition of that group and specifies various operating procedures.

3. In Alaska, health planners are currently employed by the regional non-profit Native corporations, Providence Hospital and other organizations in the private and quasi-private sector.

4. Members of the State Constitutional Convention agreed that Alaska should have a unit of government which was larger than the city, smaller than the state and broader in scope and more flexible than the traditional county form of government (Victor Fischer, **Alaska's Constitutional Convention**, University of

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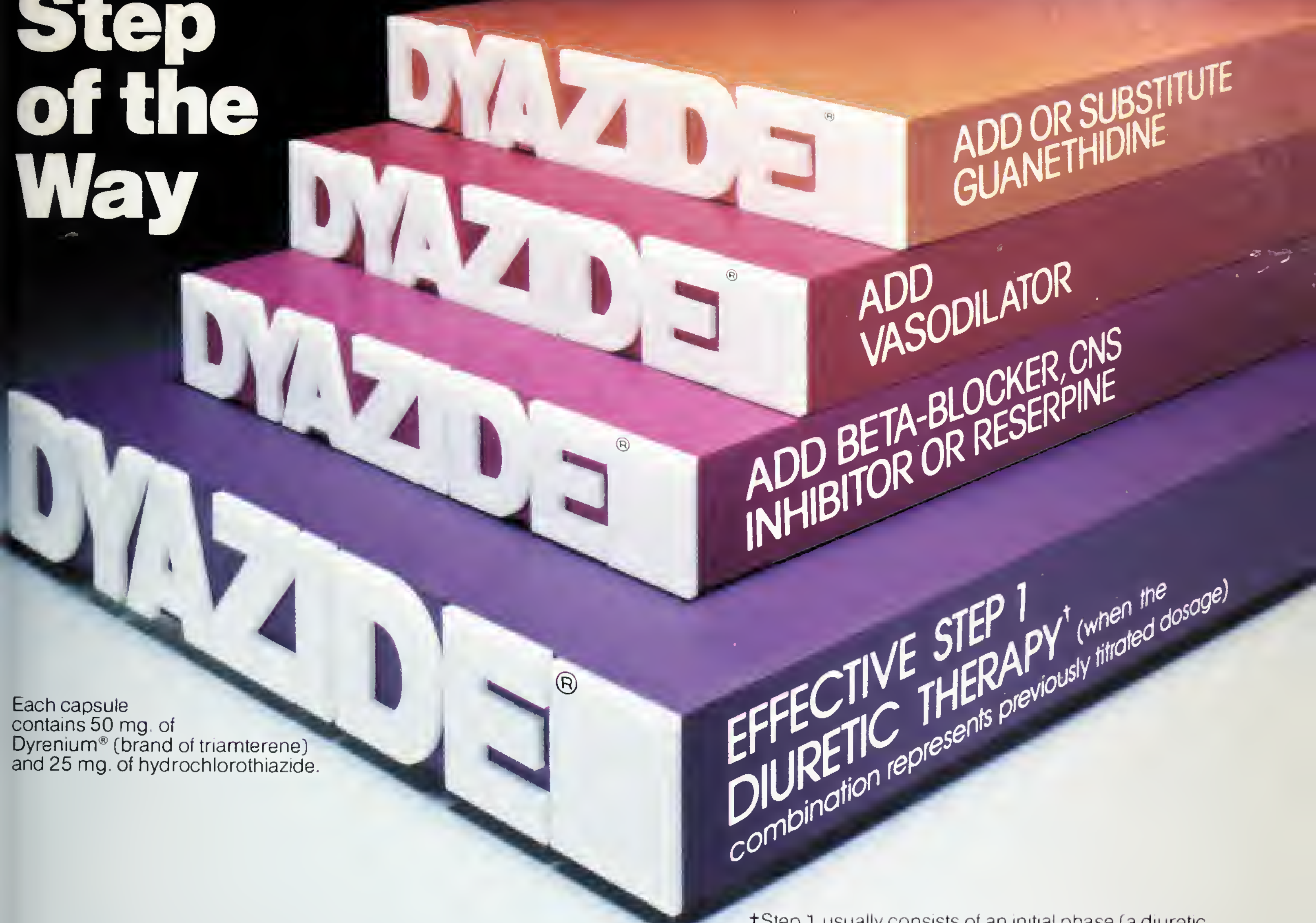
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Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency Watch for signs of impending coma in severe liver disease If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+ Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia. thrombocytopenia. agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients Use cautiously in surgical patients The following may occur. transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia Serum PBI levels may decrease without signs of thyroid disturbance Calcium excretion is decreased by thiazides 'Dyazide' should be withdrawn before conducting tests for parathyroid function

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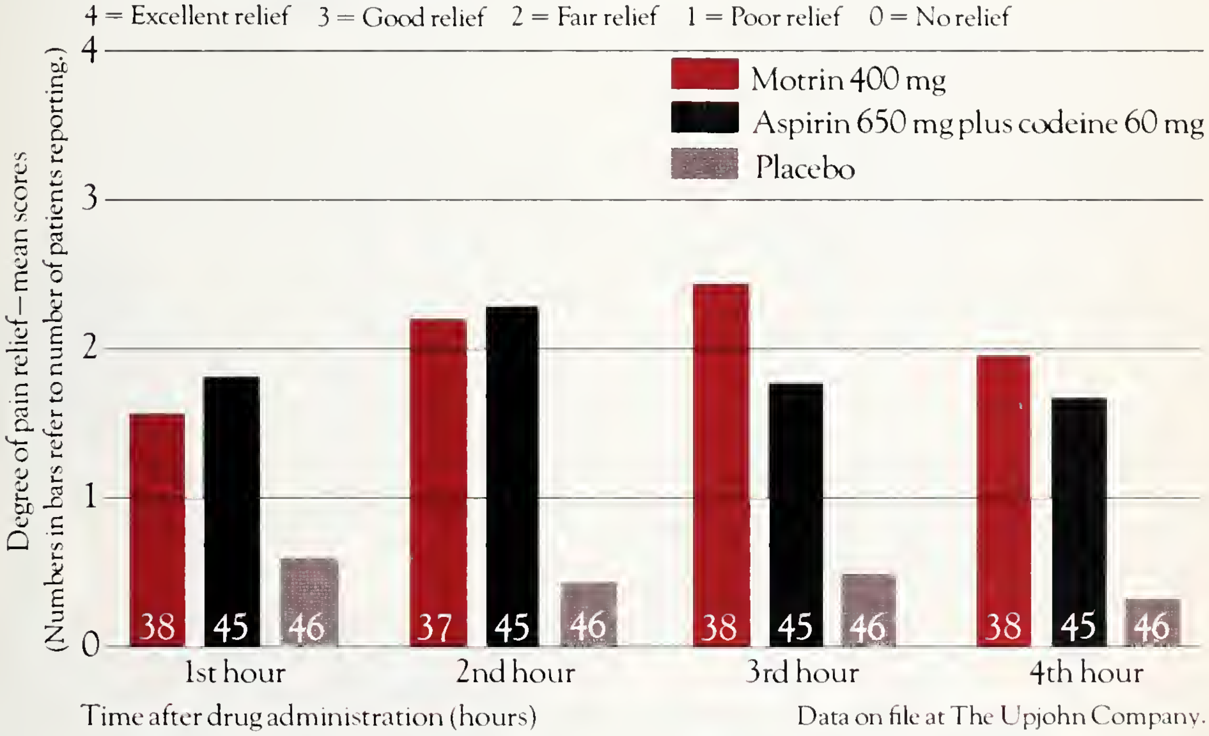

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*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

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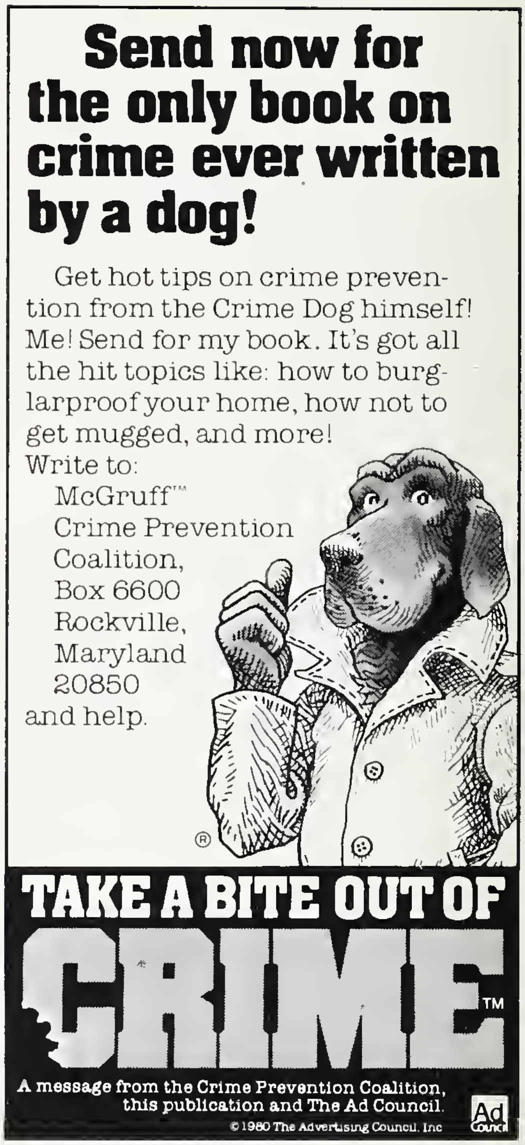

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Alaska Press, 1975). Their intent was clearly to divide the entire state into units of regional government, called "boroughs," as prescribed in Article X, Section 3 of The Constitution of the State of Alaska:

> "The entire State shall be divided into boroughs, organized or unorganized. They shall be established in a manner and according to standards provided by law. The standards shall include population, geography, economy, transportation, and other factors. Each borough shall embrace an area and population with common interests to the maximum degree possible . . . "

5. Since statehood, only 11 organized boroughs have been formed and the remaining 75 percent of the State's land mass has been classified into a single "unorganized borough" (Division of Community Planning, Department of Community and Regional Affairs, **Problem Analysis: Service Delivery and Government in the Unorganized Borough**, draft, 1980).

6. Third class boroughs, of which there is one in the state, are not required to exercise the power of planning and zoning.

7. Legislation to encourage or require formation of additional borough governments in Alaska was introduced in the Alaska State Legislature in sible boundaries. land. Service support ment borough these Changes in Government and Service Delivery Systems," presented at the Unorganized Borough Symposium, November 17, 1980, Anchorage, Alaska).

8. In 1975, The Alaska State Legislature created 21 Regional Education Attendance Areas (REAA's) throughout the state. The boundaries of the REAA's are consistent with the boundaries of the regional corporation areas established by the Alaska Native Claims Settlement Act. Each REAA has an elected regional school board which operates the local schools. The state, however, provides full funding to the REAA's for both construction and operation of schools. The formula by which REAA's receive their funding has created a higher level of state funding for school districts than for municipal and borough school districts which in turn has created a disincentive to organizing the unorganized borough (Division of Planning, Alaska Department of Community and Regional Affairs, op cit).

   However, recent proposals to increase state support for borough and municipal school districts may eliminate this disincentive.

9. The Alaska Coastal Management Act, passed by the Alaska Legislature in 1977 in response to federal legislation, creates Coastal Resource Areas (CRSA's) to plan for the use of coastal land. CRSA boundaries are consistent with REAA boundaries. By 1980, only three regions had formed CRSA's: NANA Coastal Resource Service Area (consistent with the boundaries of the Northwest Arctic REAA); Bering Strait Coastal Resource Service Area (consistent with the boundaries of the Bering Strait REAA excluding Nome); and the Yukon-Kuskokwim Delta Coastal Resource Service Area (consistent with the boundaries of the Lower Yukon REAA and the Lower Kuskokwim REAA). While CRSA's have planning authority similar to boroughs, they do not have the authority to implement the plans through platting, zoning and/or capital improvements. In the unorganized borough, this authority is delegated to the Alaska Department of Natural Resources, which has never exercised its zoning power in the unorganized borough (Division of Planning, Alaska Department of Community and Regional Affairs, op cit).

10. One example is law enforcement. Although the Alaska Department of Public Safety is responsible for law enforcement in the unincorporated areas of the state which do not have police powers, it has not been possible to station a State Trooper in every community in Alaska. Furthermore, the state does not recognize nor enforce the rules passed by village councils operating under the authority of the Indian Reorganization Act. In some cases, villagers challenge the authority of village councils because the state will not recognize them as legitimate governing bodies ("Enforcement efforts thwarted; state won't uphold village rules," **Fairbanks Daily News-Miner**, December 4, 1980).

11. In 1979 a Local Government study was sponsored by the House and Senate Committees on Community and Regional Affairs. In 1980, the Alaska Department of Community and Regional Affairs held workshops, called "gatherings," in rural Alaska where selected participants discussed problems with the present systems of government and services in the unorganized borough. An Unorganized Borough Symposium was held in Anchorage, November 17-19, 1980, under the auspices of the Department of Community and Regional Affairs to bring together participants in the preceeding gatherings with a panel of experts on local government. The experts were then commissioned to write papers on various aspects of planning for organizing the unorganized borough.

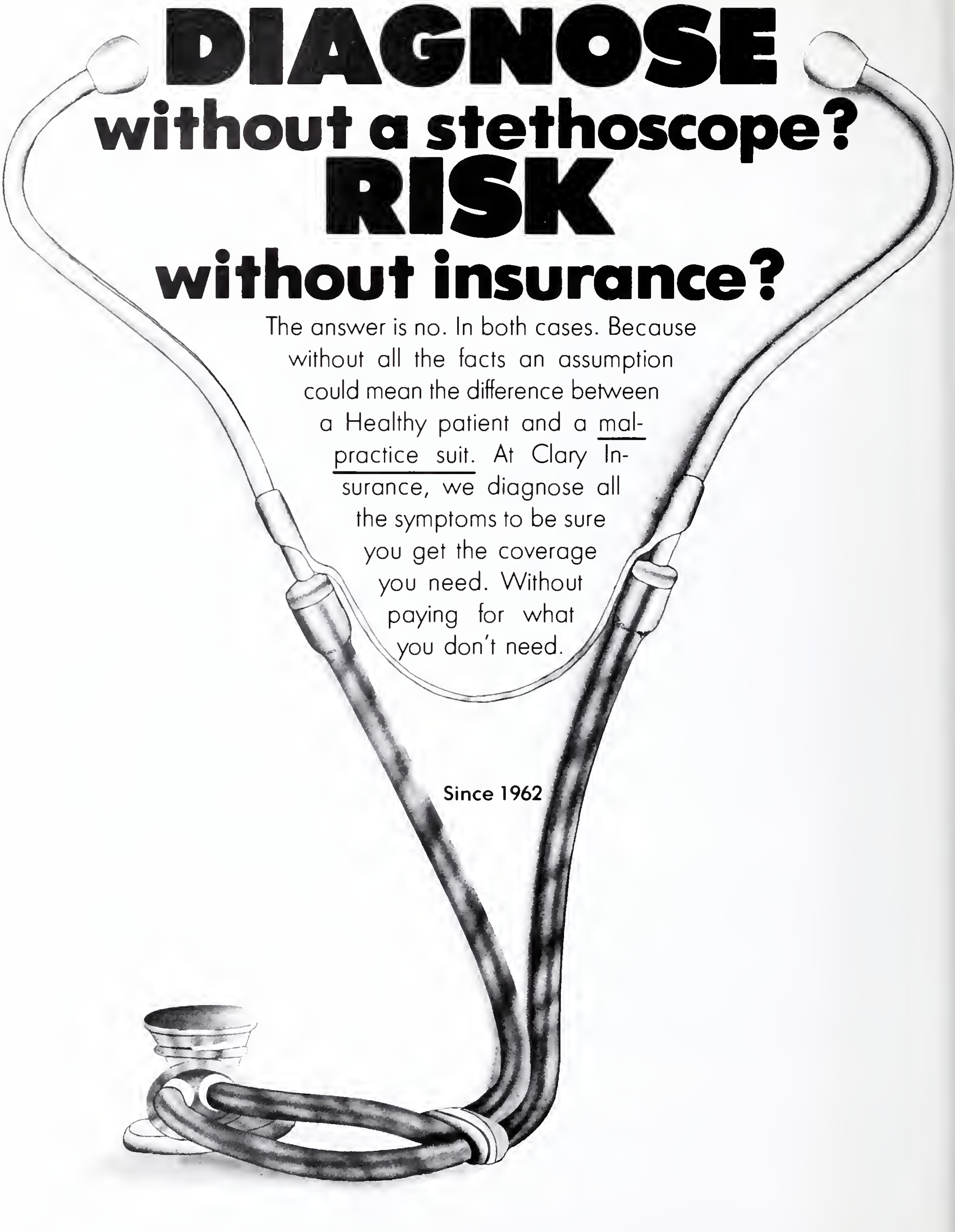
12. Section 2. (c) of the Alaska Native Claims Settlement Act states:

    > " . . . the Secretary is authorized and directed, together with other appropriate agencies of the United States Government, to make a study of all Federal programs primarily designed to benefit Native people and to report back to the Congress with his recommendations for the future management and operation of these programs within three years of the date of enactment of this Act."

    Amendments to the Alaska Native Claims Settlement Act which followed the 2(c) Study specified that ANCSA extinguished all claims to the land but did not terminate any trust relationship between the United States and any corporation or individual entitled to receive benefits under ANCSA. It is possible that Alaska Native Service could close its Alaska Area Native Health Service.

13. In 1980, two state health insurance schemes were introduced in the Alaska State Legislature, House Bill 977 and Senate Bill 227. Hearings were held on those bills, but no action was taken prior to adjournment. When the Twelfth Alaska Legislature convened in 1981, a revised state health insurance program was introduced in the House of Representatives with nine sponsors representing a very broad constituency. Known as the Sponsor Substitute for House Bill No. 41 (SSHB 41), this proposed legislation would require the state to develop a comprehensive health insurance plan and would create a state subsidy of premiums, co-payments and deductibles based upon a formula which includes income and family size. Under SSHB 41, all state residents would be eligible for the state health insurance and cost-sharing program except for those who are covered by a state or federal health program. This presumably excludes Medicare and Medicaid recipients as well as Indian Health Service bene-ficiaries. If these provisions are not amended, one might anticipate a class action suit by Alaska Natives to obtain coverage by the program. If SSHB 41 is not enacted by law, one might expect another proposal for a state health insurance program to be introduced by the governor during the second session of the legislature. At the present time, the State of Alaska has contracted with Battelle Northwest to assess the needs and alternatives for a state health insurance program. The report from that study is anticipated in December, 1981.

14. The Western and Arctic Alaska Transportation Study (WAATS) sponsored by the State of Alaska Department of Transportation and Public Facilities (DOTPF) surveyed residents of communities of the North Slope, the Bering Straits region and the Yukon-Kuskokwim Delta in 1979 and 1980 as a preliminary phase in preparing a regional trans-portation plan. The survey results indicated that the high cost of air travel is the most important tranportation problem for residents of these communities. When asked where they wanted roads to be built, respondents appeared to express a preference for roads which connect villages with regional service centers.



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A CASE OF WEATHER SENSITIVITY

Charles J. Hudson, M.D.

Some effects of the weather, such as frostbite, heatstroke or sunburn, are well known to the physician and the general public. Other climatic influences are more subtle and there may be some biometeorological phenomena which are only syspected. For example, there seems to be a seasonal variation in the occurrence of suicide with increased rates in the late winter and early spring (1). The reason for this annual pattern is unclear.

After moving to Cooperstown, New York in 1974, having spent seven years in Alaska, the author evaluated the following patient:

A 32 year old housewife was seen in a medical clinic of the Mary Imogene Bassett Hospital for a sore arm. No physical cause was found for the soreness. However, closer questioning suggested that she might benefit from psychiatric evaluation and she was seen in consultation by the author.

She had somatic complaints and was tearfully depressed admitting having difficulty coping with everyday family life. She had random occurrences of depression which did not seem related to anything going on in her life. She was urged to keep a daily log of her activities and to record any events which might be related to her depression.

After several months of recording and observation, it appeared that her depression occurred in association with weather change. For several days prior to rain, a windstorm or a snowstorm, she became depressed until the precipitation started when her spirits began to improve. She also reported that autumn was a difficult time for her because then she was apt to be depressed at times other than before rain storms. Her husband reported that for several days prior to a hurricane that hit upper New York State, she was especially depressed and she had a similar marked mood swing prior to a blizzard.

At the time of evaluation, she was given the Zung depressive rating scale, with a score of 57 compatible with a non-psychotic depression of moderate severity. She was started on imipramine with considerable improvement in her sense of well-being although at times she still had some feelings of depression prior to major weather changes. She improved still further with adjustment of her imipramine dose. She eventually felt well enough to take a full-time job outside of her home.

Alaskans are aware of the weather with the long cold winter, marked day-night variation during the course of the year and other unusual meteorological phenomena. Weather has been a concern of mankind since the dawn of time. Our earliest ancestors were aware of changes in their environment. Today, despite major technological advances, such as weather satellites and exploration of the solar system, weather continues to be a major uncontrolled factor in our life on this planet. Recent droughts in the western United States and on the east coast of the United States are reminders of man's present-day vulnerability to atmospheric events.

There is a great deal written about weather dating back to Hippocrates linking it to human health. Hippocrates (2) suggested that the study of medicine should begin with the relations of seasons to disease and the medical consequences of various winds. He told his students not to neglect the study of weather.

These is also an extensive folklore throughout the world about many supposed effects of the elements on humans. The word lunatic is derived from the Latin word for moon, luna, a present-day reminder that in the past mentally ill people were thought to be affected by the full moon. Shakespeare was aware of the influence of weather on people and wrote the following: "Enter Mercutio, Benvolio, and men. Benvolio: 'I pray thee, good Mercutio, let's retire; the day is hot, the Capulets abroad, and if we meet, we shall not escape a brawl. For now, these hot days, is the mad blood stirring.' " (Romeo and Juliet, Act III, Scene I.) Perhaps he was anticipating the summer riots which occurred in many American cities in the 1960's and 1970's.

Many clinicians are aware that there are unusual

Attending Psychiatrist, Mary Imogene Bassett Hospital, Cooperstown, New York; Assistant Clinical Professor of Psychiatry, Columbia University

patterns to some clinical problems. Some patients note that their arthritis is worse with some weather changes or that old wounds ache more with certain kinds of weather usually a falling barometer. Peptic ulcer disease is said to more common in the spring and autumn of the year (3).

With the woman whose case was presented earlier, it was clearly a falling barometric pressure which was linked to her depressive episodes. She had been questioned about the effect of altitude change but did not note any.

In order to understand what was happening to this woman, it is useful to introduce some folklore from Europe. Inhabitants of the Alps have long known that certain winds called foehns, coming down the sides of mountains, could be accompanied by changes in human behavior such as accidents, murder or suicide. Courts in Germany and Switzerland take into consideration whether or not a particular case was associated with the occurrence of a foehn.

Winds in other parts of the world are also linked with changes in human behavior. The sirocco in the Mediterranean, the sharav in Israel, the chinook in the Rockies and the Santa Ana in California are similarly described as having adverse effects on human health and behavior.

These winds have been closely studied in some parts of the world, and it is now apparent that there are very clear ways in which they may influence biological systems. There seems to be a scientific basis for what Sulman (4) has called "weather sensitivity" which he has studied extensively in Israeli citizens. His work deals with the sharav, a hot, dry wind which periodically comes from the desert and which he distinguishes meteorologically from the foehn. Both winds are dry and warm and associated with changes in small air ions. These ions are present in the air we breathe at all times.

However, Diamond (5) has shown that when one of these "ill winds" is about, the ratio of negative small air ions to positive is increased. It is the positive ions which have an adverse effect causing some individuals to feel irritable or depressed. Krueger and Reed (6) have reviewed the evidence linking these atmospheric effects to metabolism in humans and other mammals. When these ions are inspired, by ways which are not clear, they affect serotonin metabolism. Sulman has shown that when the sharav is blowing, there is an increase in the metabolic products of serotonin in human urine. Serotonin is, of course, an important element of the catecholeamine hypothesis of depressive disorder which has been one of the cornerstones of psychiatric theory and practice of the last several decades (7).

There seems to be confirmation for the age-old notion that weather, specifically certain kinds of winds, can have serious effects on health in some individuals who are subject to weather sensitivity. This phenomenon seems to have been well studied in some parts of the world. However, the author has been able to find little in the medical literature from North America to indicate how much morbidity and mortality results from such weather changes.

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CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

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Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

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ASMA RESOLUTIONS

RESOLUTION NO. 81-1
SUBJECT: Alaska Hospital and Medical Center, Inc.

WHEREAS, the Municipality of Anchorage and the State of Alaska needs the Alaska Hospital and Medical Center as a viable, community resource for the health care of the people, and

WHEREAS, the following representative groups and agencies have expressed the will of the people to have Alaska Hospital remain a community hospital:

Providence Hospital Medical Staff
Alaska Hospital Medical Staff
Providence Hospital Planning Congress
Anchorage Municipal Assembly
Anchorage Medical Society
Anchorage Chamber of Commerce
Alaska Public Interest Research Group;

BE IT THEREFORE RESOLVED THAT THE ALASKA STATE MEDICAL MEDICAL ASSOCIATION requests the Legislature of the State of Alaska to; a) pass a special appropriation to provide funds for a loan to a responsible community hospitl board to change the mortgage funding of the Alaska Hospital, or b) to pass legislation to permit the sale of a bond issue for the same purpose.

RESOLUTION NO. 81-2
SUBJECT: Endorsement of a Statewide School Health Education Program

WHEREAS, there are no comprehensive K-12 school health education programs in the State of Alaska, nor sufficient resources to provide the necessary leadership, specialists, personnel, training and materials; and

WHEREAS, many of today's leading health problems are due to poor choices of lifestyle, preventable through sound health education, coping skills, and self-management; and

WHEREAS, several major organizations including the three State Regional Health Service Agencies and the Alaska Health Education Consortium are vigorously promoting legislation to implement school health education programs; and

THEREFORE, THE ALASKA STATE MEDICAL ASSOCIATION RESOLVES that it endorses these efforts, to implement a sound Statewide School Health Education Program.

RESOLUTION NO. 81-3
SUBJECT: Thanking the Exhibitors and Contributors

WHEREAS, the support of the drug companies and manufacturers of medical equipment and surgical supplies is appreciated; and

WHEREAS, without their support the Convention would hardly be possible, and

WHEREAS, much knowledge is gained by their presentation, now therefore

BE IT RESOLVED, that the Alaska State Medical Association thank these companies and especially their representatives for their gracious assistance and making our meeting a successful one.

RESOLUTION NO. 81-4
SUBJECT: ASMA Convention Committee

WHEREAS, the physicians of the Convention Committee, specifically Jerry Little, Chairman, have given so generously of their time and efforts; and

WHEREAS, the convention has been an outstanding success because of their efforts, now therefore

BE IT RESOLVED, that they be given commendation for their outstanding work and efforts to make this convention a success.

RESOLUTION NO. 81-5
SUBJECT: Thanking the Management and Staff of Glacier Bay Lodge, Glacier Bay Explorer, and National Park Service

WHEREAS, the accomodations and environment of this convention have been excellent and most enjoyable, especially to the hardy, now therefore

BE IT RESOLVED, that we express our appreciation to the management, Mr. Peter Donau, and his fine staff for their assistance in making this a very memorable and successful meeting.

RESOLUTION NO. 81-6
SUBJECT: Thanking Alaska Tour & Marketing Service

RESOLVE that the Alaska State Medical Association express our appreciation to the Alaska Tour & Marketing Service, and particularly Ms. June Temples, for their assistance and cooperation in making all room and airline reservations and their contribution for a most successful meeting.

RESOLUTION NO. 81-7
SUBJECT: Thanking the Speakers

WHEREAS, the time and efforts of the speakers of this meeting is appreciated; and

WHEREAS, the meeting is made much more worthwhile with this scientific enterprise; now therefore

BE IT RESOLVED, that the Alaska State Medical Association express their heartfelt thanks to the speakers who have made this convention a success.

RESOLUTION NO. 81-8
SUBJECT: Certificate of Need

WHEREAS, the Certificate of Need program was enacted by the State in order to comply with federal health planning laws; and

WHEREAS, the objective of such progam was ostensibly to allow orderly progress in health planning under the guidance of the Health Systems Agency (HSA); and

WHEREAS, the federal government no longer intends to fund these Agencies; and

WHEREAS, the Certificate of Need program in Alaska is now stifling orderly planned and urgently needed progress in hospital beds in the state

THEREFORE BE IT RESOLVED that the Alaska State Medical Association favors repeal of the State of Alaska Certificate of Need law and therefore requests the legislature to repeal Alaska Statute Article 2 of Chapter 07 entitled Comprehensive Health Planning, in particular Section 18.07.031 and the following related sections.

RESOLUTION NO. 81-9
SUBJECT: Certificate of Need, Expenditure Ceilings

WHEREAS, the State of Alaska Certificate of Need program was enacted in 1976; and

WHEREAS, the cost of medical equipment, buildings, and planning itself has been subject to the effect of inflation and

WHEREAS, the Certificate of Need regulations in the state of Alaska applies to any activity or equipment costing in excess of $150,000 and in addition applies to all predevelopment expenditures such as engineering studies, architectural plans, consultant and license fees etc. and

WHEREAS, such a low ceiling on equipment and preplanning costs requires a Certificate of Need for minimal equipment and even to think of planning and

WHEREAS, such subjugation smothers all incentive and progress in health care in the state

THEREFORE BE IT RESOLVED that the Alaska State Medical Association requests the Department of Health and Social Services to increase this ceiling to a more practical level such as $1 million until Certificate of Need is repealed by the State of Alaska.

RESOLUTION NO. 81-10
SUBJECT: Section 1122 of the Social Security Act

WHEREAS, Section 1122 review of the Social Security Act relates to the use of federal funds for health care facilities and specifies that funds which are reimbursable through Medicare and Medicaid are not to be used for "unnecessary" capital expenditures made by or on behalf of health care facilities; and

WHEREAS, the planning agencies (HSA) must submit to the Secretary of Health and Human Services findings and recommendations relating to whether capital expenditures proposed by or on behalf of health care facilities in the state are consistant with the standards, criteria, or plans developed pursuant to the Public Health Services Act or the Mental Retardation Facilities and Community Mental Health Centers Act

This review applies to any capital expenditures which:

1. Exceed $100,000
2. Change the bed capacity of the health care facility
3. Substantially change the services of the health care facility with respect to which such expenditure is made and

WHEREAS, such review is repugnant to responsible planning facilities and places further unnecessary roadblocks in the way of progress; and

WHEREAS, such blocks prevent proper progress for the beneficiaries of the Medicare and Medicaid patients to whom such planning, at least in part, applies; and

WHEREAS, such requirements are further over regulations tending to prevent progess in health care, jobs for people in the community, and economic progress in general

NOW THEREFORE BE IT RESOLVED that the Alaska State Medical Association urge its congressional representatives to labor toward repeal of this review and be it further resolved that the American Medical Association direct its energies also toward repeal of this "1122 review".

RESOLUTION NO. 81-11
SUBJECT: JCAH Standards for Quality Assurance

WHEREAS, the JCAH is currently reviewing all of its standards, and

Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

You and I can feel proud of what we've done together to reduce excessive anxiety and thus help patients to cope more successfully.

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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.
Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
Dosage: Individualize for maximum beneficial effect. *Adults:* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.

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Bee Stings Can Be Fatal to Some

Insect Stings

With the return to outdoor activities this spring comes once again the hazard of bees and wasps.

For most of us the venom of a stinging insect hurts and is annoying, but is not a serious health problem. For some the bee sting can kill. Those are the individuals who are allergic to stings. Insect stings cause more deaths yearly than snake bites, says the American Medical Association's Handbook of First Aid and Emergency Care. The most common stinging insects are bees, hornets, wasps, yellow jackets, bumble bees and fire ants.

The sting causes pain, swelling, redness, itching and burning. If stung by a honey bee, carefully remove the stinger by gently scraping with a knife blade or finger nail. Wash with soap and water. Place ice wrapped in cloth or cold compresses on the sting area. Soothing lotions such as calamine or a paste of baking soda and a little water are often helpful in relieving discomfort.

Those allergic to insect stings suffer from a condition known as anaphylactic shock. It can occur sometimes from only one sting if the victim has been stung previously.

Insect sting shock symptoms include severe swelling in other parts of the body, such as around the eyes, lips and tongue. Weakness, coughing or wheezing, severe itching, stomach cramps, nausea and vomiting, anxiety, difficulty in breathing, dizziness, collapse, unconsciousness and hives or rash over the body often follow quickly after the sting.

It is important to open an airway and restore breathing. Some experts suggest using a tourniquet in severe reactions where life might be at stake. Emergency insect sting kits available only by prescription sometimes contain a tourniquet. It can be used only if the sting is on an arm or leg. Don't tie it too tight and loosen every five minutes until medical help arrives. A watchband or belt can serve as a tourniquet.

Place cold compresses on the sting area. Keep the victim lying down unless he is short of breath. Then let him sit up. Keep victim quiet and comfortable. If a first aid kit for insect stings is available use it according to the directions.

May, 1981
Frank Chappell
Science News Editor
AMA

WHEREAS, there is major emphasis being placed on Quality Assurance standards and documentation of such action, and

WHEREAS, the perceptions of needs and possible effects of such JCAH standards and such documentations are subject to wide variations and differing concerns among hospital administrations and hospital medical staffs, and

WHEREAS, Quality Assurance is such a nebulous thing, if in fact it really exists.

NOW THEREFORE BE IT RESOLVED that the Alaska State Medical Association and the American Medical Association require that the JCAH justify any standards for documentation of Quality Assurance by clear and convincing scientific evidence that such standards effectively raise the quality of care being given in a hospital and effectively reduce the likelihood of personal injury actions and potential hospital liability, and

BE IT FURTHER RESOLVED that the JCAH shall recognize that Hospital Medical staff leadership, morals and concern for the quality of medical care are the overiding factor in achieving and maintaining a high level of competency and that these qualities cannot be imposed by regulation.

RESOLUTION NO. 81-12
SUBJECT: Tobacco

WHEREAS, the use of tobacco products can effect serious health and fire hazard consequences to hundreds of thousands of Americans including Alaskans; and

WHEREAS, there are increasing efforts by various Alaskan agencies (other than Alaska State Medical Association) to counter the deceptive influences of tobacco advertisements and lobbying pressures; and

WHEREAS, there is proposed legislation to provide for rights of non-smokers in designated areas of work or assembly;

BE IT RESOLVED, that the Alaska State Medical Association endorse the principle of educating the public, the youth concerning health hazards of tobacco use. And secondly to notify the Alaska State Health Commissioner that the Alaska State Medical Association does support the concept that good long term health does include avoiding tobacco use. Finally, that Alaska State Medical Association endorsement to be made public be cleared through the Alaska State Medical Association Council.

RESOLUTION NO. 81-13
SUBJECT: Honorary Membership

WHEREAS, Joseph K. Johnson, M.D. served as president of the Alaska State Medical Association 1972-1973; and

WHEREAS, Joseph K. Johnson, M.D. has been a member in good standing for many years; and

WHEREAS, Dr. Johnson has retired because of disabling injuries; and

WHEREAS, Dr. Johnson has served the Alaska State Medical Association for many years with honor and distinction;

THEREFORE BE IT RESOLVED, that Joseph K. Johnson, M.D. be granted honorary membership of the Alaska State Medical Association.

RESOLUTION NO. 81-14
SUBJECT: Honorary Membership

WHEREAS, Earl A. Albrecht, M.D. is a long time Alaskan now enjoying the fruits of semi-retirement, and

WHEREAS, Dr. Albrecht was Health Commissioner in the earlier days of territorial Alaska;

WHEREAS, Dr. Albrecht has served the medical profession long and well in this and other ways, most recently in circumpolar arctic health matters;

NOW THEREFORE BE IT RESOLVED, that Earl Albrecht, M.D. be awarded Honorary membership in the Alaska State Medical Association.

RESOLUTION NO. 81-15
SUBJECT: Appreciation for Service

WHEREAS, Birger "Marti" Martinson has for over 50 years served the medical profession of Alaska in the field of x-ray equipment and services;

WHEREAS, this service has also benefited the public at large;

THEREFORE BE IT RESOLVED, that the Alaska State Medical Association express its gratitude to "Marti" Martinson for over a half century of service to Alaska Medicine.

RESOLUTION NO. 81-16
SUBJECT: Confusion of Coverage

WHEREAS, the Alaskan Native receives his basic health care coverage from the Alaskan Native Health Service, a subdivision of the Indian Health Service, a branch of the U.S. Public Health Service; and

WHEREAS, the Alaskan Native may be also eligible for Medicaid and/or Medicare health benefits; and

WHEREAS, the Alaskan Native is also certainly eligible for benefits of Native Corporation and programs they may have, and

WHEREAS, there is confusion as a result of the multiple programs,

THEREFORE BE IT RESOLVED, the Alaska State Medical Association explore possible solutions to this problem.

RESOLUTION NO. 81-17
SUBJECT: Infant Formula Sales

WHEREAS, the promotion and marketing of infant formula in 3rd world nations is estimated by UNICEF to result in women abandoning breast-feeding with a resultant loss of 1 million lives per year from contaminated formula, induced diarrhea disease, and

WHEREAS, the World Health Organization encourages breast-feeding, and

WHEREAS, this issue recently came before the United Nations at the request of WHO, and the nations of the world voted overwhelmingly to encourage breast-feeding and to condemn the promotion and marketing of formula to infants in 3rd world countries, and

WHEREAS, the United States was 1 of 3 nations to vote against the WHO supported resolution,

BE IT RESOLVED, that the Alaska State Medical Association does not support the official position of the United States government in voting against the United Nations resolution, and

BE IT RESOLVED, that the Alaska State Medical Association supports the concept to encourage breast-feeding and to condemn the inappropriate promotion and marketing of infant formulas in 3rd World Nations.

RESOLUTION NO. 81-18
SUBJECT: Cancer Research in Alaska

WHEREAS, the American Medical Association and the Alaska State Medical Association are both in favor of making rapid progress in cancer research as a necessary and important aspect of medicine in Alaska, and

WHEREAS, basic, clinical, and epidemiologic cancer research studies are now being performed well by Alaskans and such efforts are increasing steadily, and

WHEREAS, Alaskans have the proved scientific capability of performing such research studies and organizing such research efforts, and

WHEREAS, the potential for developing a unique and a premier quality cancer research center already exists here in Alaska, and can be best done by Alaskans

THEREFORE BE IT RESOLVED that

1. The Alaska State Medical Association hereby is in opposition to Alaska State funds being sent outside the state for cancer research, and
2. The Alaska State Medical Association favors and encourages the use of Alaska State funds to further develop a useful, unique and premier quality cancer research center in Alaska.

RESOLUTION NO. 81-19
SUBJECT: Giardia

WHEREAS, a giardia outbreak related to the crab industry in Alaska could have a severe economic, health and social impact on the State of Alaska,

WHEREAS, the recent treatment of the giardia outbreak was funded entirely by the State Health Organization and no responsibility was accepted by the owners of the vessels involved, and

WHEREAS, more than 15,000 individuals working in this industry, nearly 3¾% of Alaska populus, have no medical coverage supplied by their employers, and

WHEREAS, the potential exists for a national and/or international epidemic of giardia, hepatitison, other infectious disease of major proportion, with resultant devastation of the Alaska Crab industry similar to the tuna industry of the early 1960's occuring from a botulism epidemic (and that industry is still recuperating)

BE IT RESOLVED, that the Alaska State Medical Association feels it is imperative that an immediate solution to this potential disaster be instituted, and

BE IT FURTHER RESOLVED that copies of the report "Giardia outbreak in Dutch Harbor" and other documentation available, the resolution by the Alaska State Medical Association be sent to U.S. Senators and Representatives, Governor Hammond, Attorney General of the State of Alaska and Japanese Consulate in the State of Alaska.

RESOLUTION NO. 81-20
SUBJECT: Physician Assistant Certification

WHEREAS, physicians in Alaska try to assure the highest quality of medical care in our state, and

WHEREAS, the State Medical Board has developed existing regulations which assure that Physicians Assistants meet reasonable standards of competency in their vocation as such,

WHEREAS, the State Medical Board of Examiners has proposed amendments to existing regulations which would allow non-board certified Physician Assistants to practice in the state

NOW THEREFORE, the Alaska State Medical Association resolved that the Physician Assistant regulations should continue to exist without any such amendments and furthermore authorize the Executive Secretary of the Alaska State Medical Association to convey this information to the Department of Commerce and Economic Development, State Medical Board of Regulations prior to June 1, 1981.

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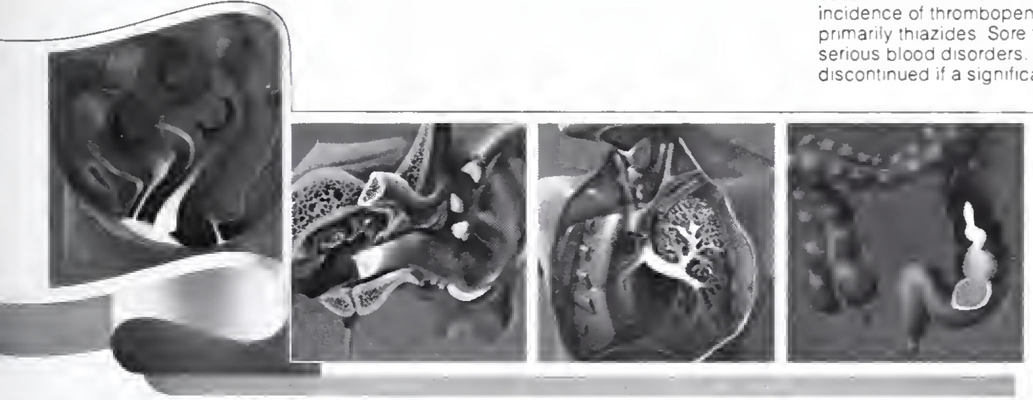

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in acute exacerbations of chronic bronchitis in adults... clears the sputum and lowers its volume...on *b.i.d.* dosage

in shigellosis... faster relief of diarrhea than with ampicillin[2]

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note*: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry-flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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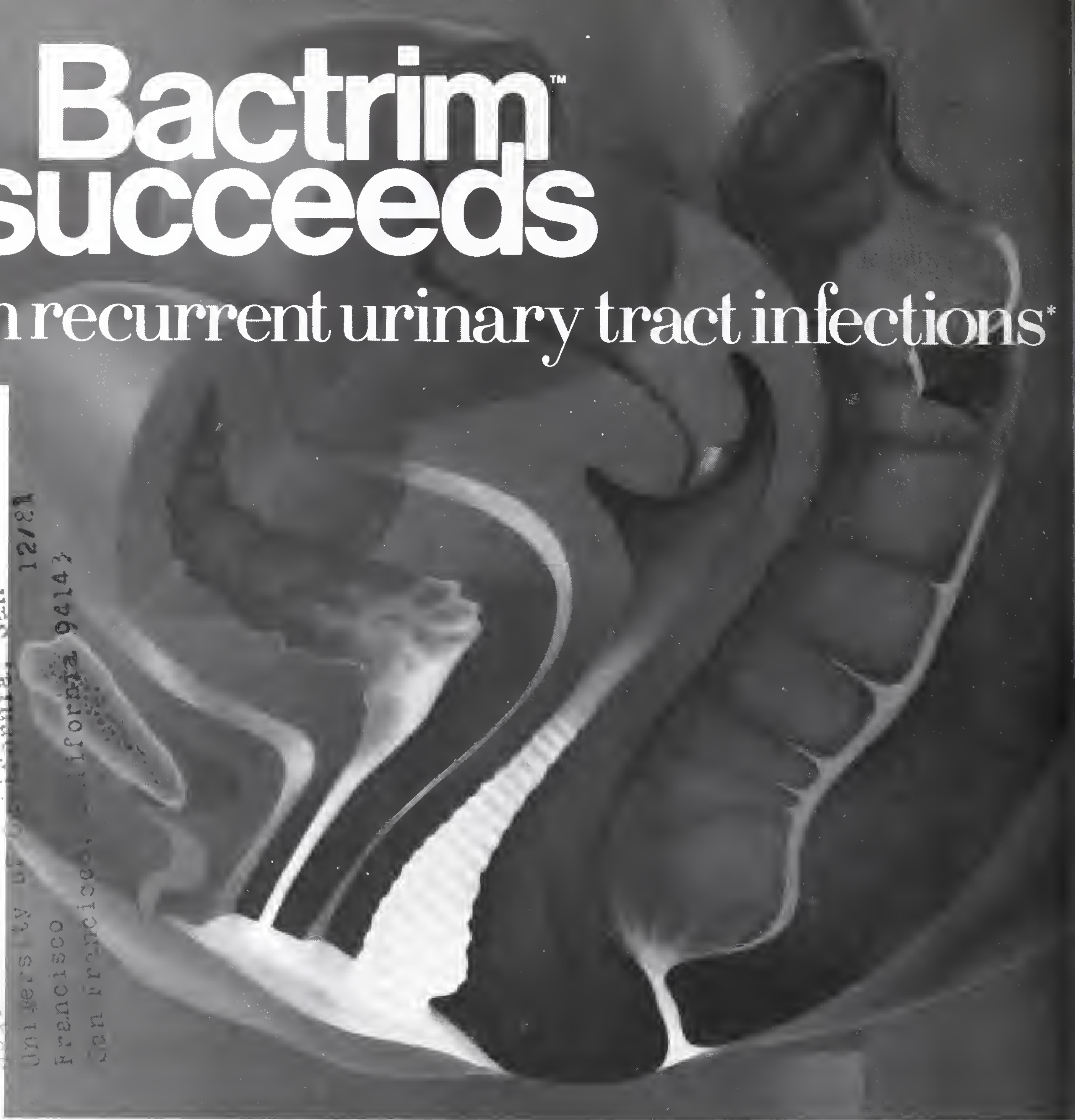

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1. Rubin RH, Swartz MN: *N Engl J Med 303*:426-432, Aug 21, 1980. **2.** Data on file, Medical Department, Hoffmann-La Roche Inc.

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*due to susceptible strains of indicated organisms

Please see previous page for summary of product information.

ALASKA MEDICINE

Volume 23, Number 4
July/August 1981

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Feelings vs.

Some people feel that I am misused and overused and that I'm prescribed too often and for too many kinds of problems.

The FACT is that approximately eight million people, or about 5 percent of the U.S. adult population, will use me during the current year. By contrast, the national health examination survey (1971-1975) found that 25 percent of the U.S. adult population experiences moderate to severe psychological distress. Additionally, studies of patient attitudes revealed that most patients have realistic views regarding the limitations of tranquilizers and a strong conservatism about their use, as evidenced by a general tendency to *de*crease intake over time. Finally, a six-year, large-scale, carefully conducted national survey showed that the great majority of physicians appropriately prescribe tranquilizers.

Some people feel that patients being treated with anxiolytic drugs are "weak," can't tolerate the anxieties of normal daily living, and should be able to resolve their problems on their own without the help of medication.

The FACT is that while most people can withstand normal, everyday anxieties, some people experience excessive and persistent levels of anxiety due to personal or clinical problems. An extensive national survey concluded that Americans who do use tranquilizers have substantial

Facts

justification as evidenced by their high levels of anxiety. It was further noted that antianxiety drugs are not usually prescribed for trivial, transient emotional problems.

Some people feel afraid of me because of the stories they've heard about my being harmful and having the potential to produce physical dependence.

The FACT is that there are thousands of references in the medical literature documenting my efficacy and safety. Extensive and painstakingly thorough studies of toxicological data conclude that I am one of the safest types of psychotropic drugs available. Moreover, I do not cause physical dependence if the recommended dosage and therapeutic regimen are followed under careful physician supervision. However, I can produce dependence if patients do not follow their physicians' directions and take me for prolonged periods, at dosages that exceed the therapeutic range. Patients for whom I have been prescribed should be cautious about their use of alcohol because an additive effect may result.

Many of the most knowledgable people feel that I became the No. 1 prescribed medication in America because no other tranquilizer has been proven more effective. Or safer.

The FACT is they are right.

For a brief summary of product information on Valium (diazepam/Roche) Ⓒ, please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

VA 15U— REV 1

Prepared by William Douglas McAdams, Inc.

Valium® Ⓘⓥ
diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
Dosage: Individualize for maximum beneficial effect. *Adults:* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available in trays of 10.

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WANTED: Locum tenens in Alaska for part or all of the summer of 1981 or 1982. Internist-Cardiologist preferred but would practice general medicine.

Would consider "house swapping" for any extended periods of time.

Contact Richard D. Tenney, M.D., 300 North Willson, Bozeman, MT 59715.

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ALASKA MEDICINE

Official Journal of the Alaska State Medical Association

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ALASKA MEDICINE will consider for publication any original material of possible interest to our subscribers. Color or black and white photographs, slides or negatives are acceptable. Reproductions will generally be black and white. Reprints should be ordered at the time of submission. Authors will be sent three complimentary copies of the journal in which their work appears.

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A PROPOSAL TO DEVELOP HOSPICE CARE IN ANCHORAGE

Mark E.N. Agnew, M.A., M.B., MRCGP

The Concept of Hospice:

Lay people and physicians alike are becoming increasingly concerned with the need to develop new modes of care for the terminally ill. Many feel that hospitalization - the major current approach to such care - is both unnecessarily costly and inappropriate to the needs of the dying. At a time when there is general interest in curbing medical care costs, the British hospice concept has become an appealing alternative.

The term "hospice" refers to a philosophy of care for the terminally ill and not to the site of such care. Hospice care is most appropriate for people who have fatal diagnoses, for whom known curative therapies have failed and hence active treatment is no longer warranted. The challenge in dealing with such a patient thus shifts from curing to caring - to maintaining patients as symptom free as possible, allowing them to maintain control over their remaining lives and helping them and their families deal with the impending death. Sincer cancer is the disease most likely to involve such a prolonged terminal phase, cancer patients are the most likely hospice candidates.

Home care services are provided allowing the patient to remain at home as long as possible. When the patient can no longer be comfortably maintained in the home, because of nursing need or family tension, the patient is moved into an in-patient environment that is as home-like as possible. In the British model, the patient can move freely between home and facility as needed. Staff concern is to integrate the dying experience with the rest of the patient's life and to avoid isolating the patient from his existing support systems.

The unit of care in a hospice program is considered to be the patient and the family. Because of their individual needs and because of the impact the family's condition has on the patient's ability to accept death, the hospice provides emotional support both before and during the bereavement period. The families receive help in coping with their feelings, maintaining a fulfilling relationship with the patient, and planning for the future. This type of care not only promotes the quality of the patient's life but also ameliorates the symptoms of bereavement.

Hospice of Anchorage:

Hospice of Anchorage is a community based organization constituted as a non-profit corporation and founded in 1980. Hospice of Anchorage is affiliated with the North Pacific Hospice Coalition and is a member of the National Hospice Organization. Membership of the board of directors includes representatives from both private hospitals, the Alaska Native Medical Center, a skilled nursing facility, clergy, health systems planning agency, community physicians and, most significantly, Anchorage Home Health, a certified home nursing agency.

After a planning workshop in April 1980, the board resolved to make 1981 a year set aside for education of the community about the hospice concept. Target audiences selected were the community at large in general and the professional medical community in particular.

Planning for the educational program of necessity compelled members of the hospice group to think critically about the operational phase. A decision was made to concentrate on home care in the Anchorage community. Some of the factors which led to this decision are listed below.

1.) Research showed that there about 100 cancer-related deaths in the Anchorage community per year. Several published studies of hospice care patients show that about 10% of the hospice population suffer from non-cancer related illnesses, mainly chronic neurologic disorders. Thus the present annual number of individuals likely to be potential hospice patients is approximately 110. Other studies looking at the acceptance of hospice care by patients and their doctors suggest that from 10% to 50% of the potential patients may become enrolled in a hospice program. The relatively small numbers argue against creation of a free standing in-patient unit for hospice care at the present time.

2.) No agency or institution presently exists to supply the comprehensive support necessary for optimal care of dying patients. Existing needs are met with varying degrees of success by acute care hospitals, nursing homes and the home nursing agencies. Because of this some families experience much avoidable frustration and expense when a relative is dying.

3.) The community is richly endowed with the necessary resources to provide hospice home care. Studies performed in other communities show that a significant number of persons with incurable illness can be cared for in their homes. Scarce resources for acute care can than be used more effectively. Persons choosing home care can receive superior quality care specifically tailored to their needs.

4.) Humanitarian concerns must be and remain the most important factor motivating support and organization for hospice home care. Home care may not be feasible for some patients even when that would be their choice. Never-the-less, preliminary studies do indicate some significant differences in cost which favor development of home care services as an alternative option. Specimen hospital charges are shown in Table I and projections of anticipated hospice costs in Table II.

Obstacles to Providing Home Care:

Health care delivery follows the dollar and most dollars are heavily invested in the health care institutions. There is limited financing of home health services in general, and lack of third party reimbursement for home care of the dying in particular. Consequently patients and their families are often faced with the dilemma of either directly managing the intensive around-the-clock personal care required for the terminally ill, employing nursing personnel or admitting the patient to a health care facility. This problem, plus lack of extended family to provide total support for the dying person, leaves little alternative to hospitalization. Even in those instances where the family can afford complete health coverage, they have difficulty in locating it. Most home health services have been conditioned by third party reimbursement mechanisms to limit services to a five day a week schedule. In effect then, the care of dying patients at home is marked by a significant absence of choice which the patient should be at liberty to make regarding his own death.

Anchorage Hospice Project: An Operational Model:

Hospice of Anchorage would provide a cohesive array of nursing and support services to selected patients in the setting of their own homes (Figure 1). Services would be available on a 24 hour basis, 7 days a week. The care giving services would be coordinated and led by a hospice nurse under the direction of the patient's attending physician. The hospice nurse would be funded by and responsible to the hospice administrator and the board of governors. By contractual arrangement with Anchorage Home Health nursing agency professional nursing services could become eligible for third party reimbursement. The hospice nurse would construct a nursing care plan and coordinate the activities of other members in the health care team. Home health aid and homemaker services could be available through Anchorage Home Health. A volunteer would be assigned to the family. All volunteers would be screened, selected and trained for their work by the volunteer coordinator. It is the function of volunteers to provide non-professional informal helping services such as shopping and assistance with providing emotional support to the patient's family. While it is the aim of the home care team to enable the family to preserve their autonomy and to function as effectively as possible, some patients will need admission to hospital for either reasons of physicial distress or in order to temporarily relieve pressures on the family. When the patient is admitted to hospital the hospice nurse would continue her coordinating role. By working with hospital nursing personnel, the attending physician and the family, the hospice nurse would provide vitally necessary continuity of care.

Referral of potential hospice patients could be directly from interested families, attending physicians, hospital social service departments or clergy. Following the initial referral and a home visit to evaluate the feasibility of providing home care the admission data would be reviewed by a selection committee using standardized criteria to assist in the decision making process. Following acceptance by the selection committee the patient would be entered into the hospice program. Guidelines for the selection process and detailed decisions as to the scope of service are presently under development.

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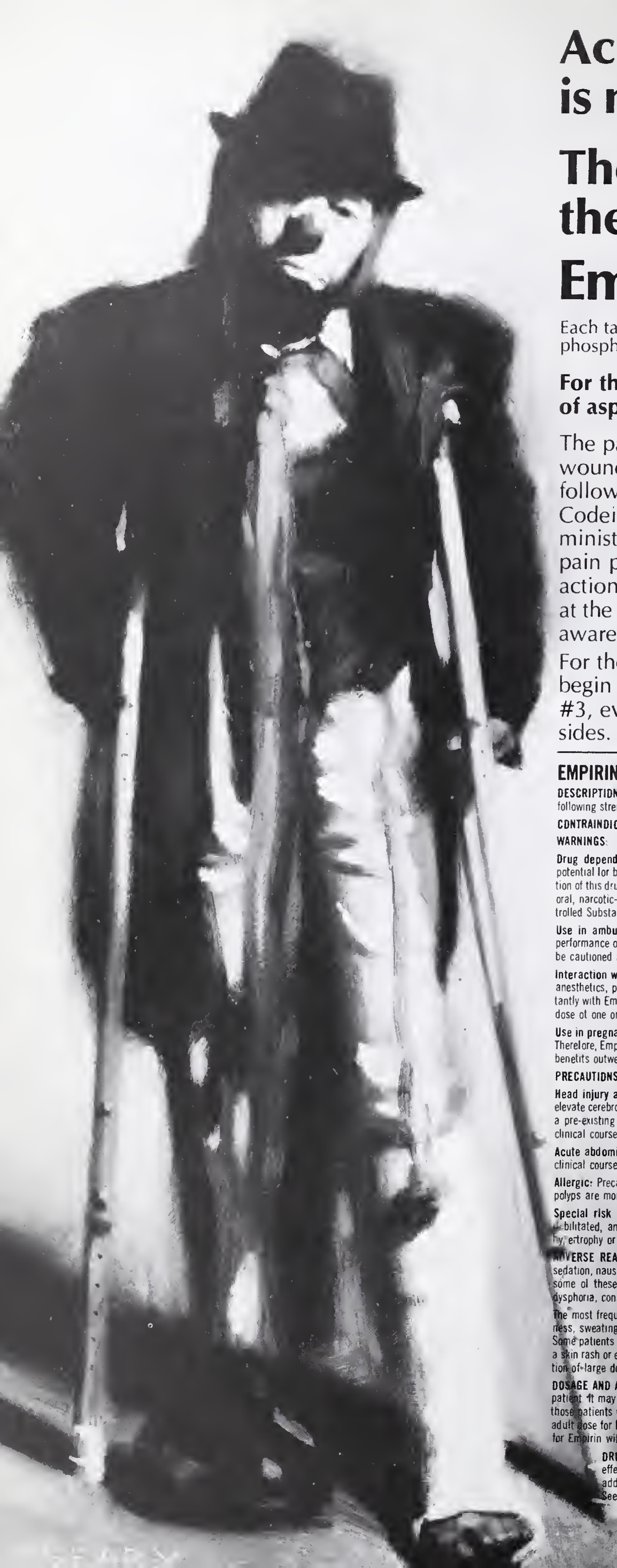

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CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies: patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.

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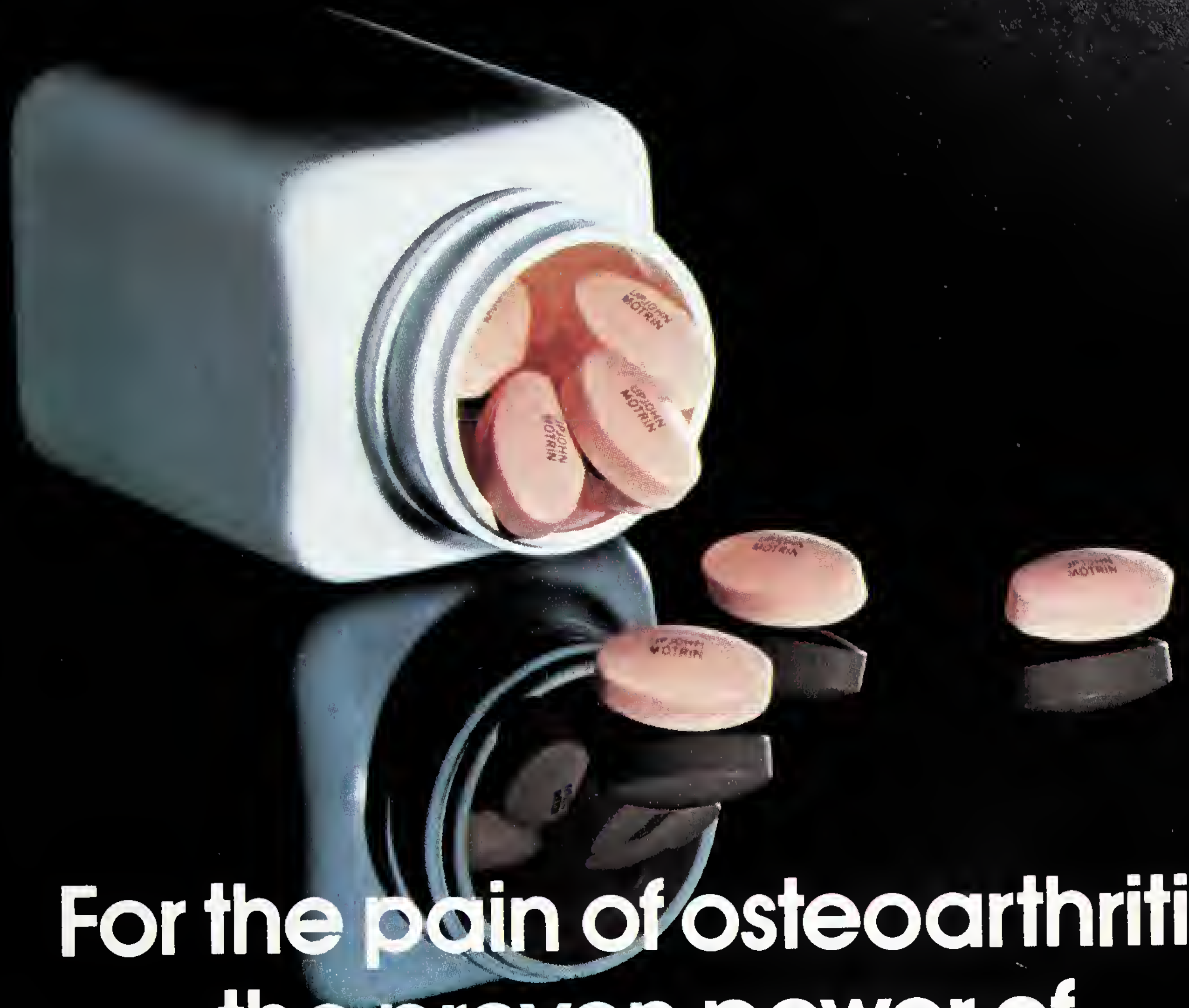

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Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema, and bronchospastic reactivity to aspirin, iodides, or other non-steroidal anti-inflammatory agents. Anaphylactoid reactions have occurred in such patients.

Warnings: Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. *Motrin* should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If *Motrin* must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Chronic studies in rats and monkeys have shown mild renal toxicity characterized by papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin*.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* and the patient should have an ophthalmologic examination, including central visual fields and color vision testing. **Fluid retention and edema** have been associated with *Motrin;* use with caution in patients with a history of cardiac decompensation or hypertension. *Motrin* is excreted mainly by the kidneys. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* safety in patients with chronic renal failure have not been done. *Motrin* can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy. Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema. To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* is added. The antipyretic, anti-inflammatory activity of *Motrin* may mask inflammation and fever.
Drug interactions. *Aspirin:* used concomitantly may decrease *Motrin* blood levels.
Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.
Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal, of which one or more occurred in 4% to 16% of the patients.

Incidence Greater Than 1% (but less than 3%)—Probable Causal Relationship
Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence Less Than 1%—Probable Causal Relationship**
Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with preexisting, significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence Less Than 1%—Causal Relationship Unknown**
Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmia (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schönlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under *"Probable Causal Relationship" (PCR)* if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under *"Causal Relationship Unknown"* if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Do not exceed 2400 mg per day. If gastrointestinal complaints occur, administer with meals or milk.

Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Caution: Federal law prohibits dispensing without prescription.

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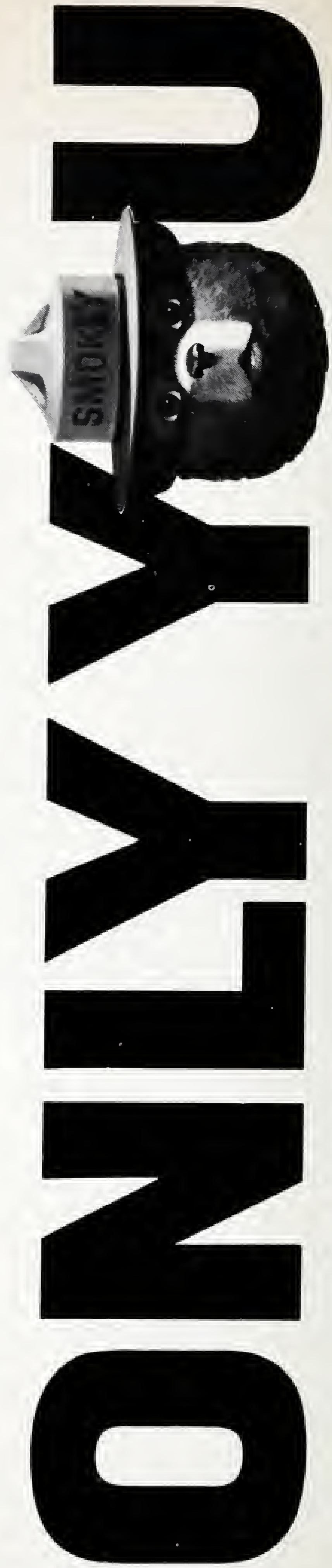
July 1981



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THE ALASKAN OPPORTUNITY TO PLAN AND DEVELOP HEALTH CARE RESOURCES AND TO PROMOTE IMPROVED HEALTH STATUS

Ron Hammett

Because of promised Federal reductions in health funding assistance to states, Alaskans are going to have an opportunity to decide what to keep, what to add and what to change. The effort should focus on functions rather than existing structures.

The Federal government has for many years been concerned with the health care status of Americans and with the adequacy of their health care. This concern has been translated into a series of Federal laws including the Hill-Burton program, promoting the development of health care facilities; hospital regional planning legislation; the Comprehensive Health Planning and Regional Medical Programs; and most recently the National Health Planning and Resources Development Act of 1974, which among other things established Health Systems Agencies (HSAs), State Health Planning and Development Agencies (SHPDAs), and State Health Coordinating Councils (SHCCs). In Alaska three HSAs were formed covering the northern interior area (Northern Alaska Health Resources Association), the south central and western regions (South Central Health Planning and Development, Inc.) and southeastern Alaska (Southeast Alaska Health Systems Agency). In addition to Federal designation and financial support the State of Alaska has officially recognized all five organizations and contributed funds to their support.

The Reagan administration has proposed that Federal financial support for P.L.93-641 as amended which established the health planning programs be phased out over the next two federal fiscal years. In Alaska this would mean that Federal support and regulation of the Alaska HSAs would end in mid 1982. After a slight increase during the period from July 1, 1982 to July 1, 1983, Federal financial support for the SHPDA and SHCC would also terminate. Further, the Reagan administration has indicated an intent to change the form of other Federal support for certain health services from categorical grants to block grants with the associated lessening of Federal requirements for advisory boards.

Except for the loss of Federal funds these two developments should be viewed as positive and as an opportunity for Alaska to make its own decisions about health care and health promotion.

In arriving at these decisions, good planning procedures should be followed and should start with the assumption that the structures and boards as we know them which were established under Federal law do not exist. This is not to say that either that structure or their functions should be discarded and in fact much may be retained. However, that is a matter for determination **after** decisions are made about what Alaska wants to do about health care and health promotion.

To start, we need to answer the question: what **should** government and public effort do that the private sector cannot be expected to do either entirely or in major part? To answer that question it is necessary to identify the universe of things that **can** be done in the name of health. One listing might be as follows:

1. To care: performing traditional diagnosis, treatment and rehabilitation services intended to restore a healthy state when disease or accident has lessened it.
2. To fund: granting awards of funds, setting

Ron Hammett is administrator of South Central Health Planning and Development agency. The opinions expressed in the paper are his own. 1135 W. 8th Ave., Anchorage, Alaska 99501

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standards and criteria, reviewing and monitoring and providing financial support.

3. To plan: collecting and analyzing data, describing existing services and conditions, establishing goals and objectives, developing policy.
4. To develop: providing technical assistance and advocacy, community organization, evaluation of assets and liabilities and implementation planning.
5. To promote: conducting disease and accident prevention services, educational and informational services, promotional program development.

While none of the categories described above would be expected to be the exclusive province of either the private or public sector there is some difference as to where primary or "lead" responsibility falls. Usually **care** as defined here encompasses those things provided in large part by physicians and hospitals and supplemented by a variety of other health care providers and facilities generally through a structure of fees for services. These are things most easily defined and assigned an immediate dollar value and therefore most amenable to solution through private enterprise. Care may also be provided through government and non-profit organizations to specific populations such as through the IHS and by specialized clinics.

The other four areas are less easy to identify and tie to cost and are therefore more easily provided for primarily in the public or non-profit sector.

Funding and planning are traditionally the responsibility of government both state and local. Some private money will supplement government support. There should be a large citizen involvement, both provider and consumer, into the funding decisions of government. However, the major responsibility for funding a variety of programs will rest with the state. The provision of financial support should be dependent on planning. Planning, the establishment of goals and objectives and the development of policy, although ultimately the responsibility of government, should require much citizen participation.

Resource development and health promotion are probably best accomplished through heavy involvement of both consumer and provider with a degree of support and influence by government. A mechanism here could be a private non-profit corporation with some basic state financial support and a wide base of involvement and assistance.

An Alaska State health system model following this might appear as follows:

1. Health care: provided by physicians, hospitals and other private practitioners on both fee-for-service and salary basis; regional health corporations, the Indian Health Service and other Native health care groups; and various private profit and non-profit organizations delivering health care to specific and general groups. Might include some innovative schemes of single financing mechanisms.
2. Funding support: provided by a State granting program (similar to current DHSS responsibility) combining all the current categorical State support along with Federal support funneled through the State in a new configuration depending in part upon the ultimate structure of Federal block grants and the State's administration of those funds.

   While this would be primarily a State responsibility there should be citizen advisory contributions. This would include the functions now provided by the DHSS categorical committees and the review/recommendation activities of the SHCC and HSAs.
3. Planning: ultimately a State responsibility (SHPDA present role) with State established goals and objectives and policy but with citizen advice. The State needs to establish consistent policy concerning financial support of facilities and services. A statewide citizen advisory body and local groups should have specific rules. These are some of the functions now performed by the SHCC and HSAs.
4. Resource development: there could be a statewide private non-profit corporation (replacing SHCC) to provide actual resource development activities including technical assistance and implementation planning consistent with State established policy goals and objectives. A variety of local private non-profit organizations (replacing HSAs) might also be involved. (The private non-profit approach is suggested to insure staff and budget control by the governing body, both in performing functions 4 and 5 and in advising under functions 2 and 3.)
5. Health Promotion: a second primary responsibility of the private non-profit mechanisms noted in 4 above with State advice.

In summary, it is important that we not let ourselves be caught in the "survival" trap. The health planning organizations (SHPDA's, SHCCs, and HSAs) which are losing Federal funding came into existence as the result of a 1974 Federal law and can hardly be considered institutions. However, in the short range view it's easy to jump to the conclusion that replacement funding must be found to support the good they are doing. We are reluctant to "reinvent the wheel" even when it needs reinventing.

We need to focus on what Alaska wants to do about health care, planning, development and promotion. The process should start with identification of discrete categories describing the universe of health concerns (such as the five listed here), proceed to assignment of primary and supportive responsibility, followed by a description of mechanisms and functions and ultimately identifying the resources needed for implementation.

The opportunity presented to Alaska is the chance to determine the functions and describe the structure without the encumbering Federal guidelines that have in the past accompanied the promise of funding support.

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J. Ray Langdon, M.D.

1981 PHYSICIAN OF THE YEAR

The newspapers state that Dr. J. Ray Langdon has fought some twenty years for reform and fairness in the field of mental health. Alaska State Medical Association bestowed its "physician of the year" award on Dr. Langdon at its annual meeting in Glacier Bay. During his years of practice in the field of psychiatry in Alaska, he has striven to persuade his fellow physicians to be concerned and active where their influence might be of benefit to their fellow man whether or nor the matter was considered to be "medical".

Dr. Langdon came to Alaska in 1958 when he was appointed assistance chief of the state division of mental health. He served in that job for two years attempting to build a mental health program for Alaska. In 1960 he went into the private practice of psychiatry and began the Langdon Clinic. He continued working as a consultant to the State Court System, the Division of Vocational Rehabilitation, the Alaska Native Health Service and Elmendorf Air Force Base Hospital. Over the years, he has worked with the Alaska Mental Health Association, Alaska Congress of Parents and Teachers and the Western Interstate Commission for Higher Education. He is a member of the Chamber of Commerce, the Spenard Rotary Club and the Medical Staff of Providence Hospital. He has served with distinction the Anchorage Medical Society and the Alaska State Medical Association. He was president of ASMA in 1971. Also, he has served the American Medical Association as Alternate Delegate to the AMA House of Delegates from Alaska 1972 to 1981.

Over the years he has been outspoken in his quest for such things as abortion law reform, the abolition of nefarious sex laws, reform of the court and penal systems and upgrading the Alaska Psychiatric Institute and the community mental health centers. In so doing he has fearlessly pointed his lance at the state bureaucracy, the legal profession, the law enforcement establishment and The John Birch Society.

In addition, and to his everlasting credit, he has not omitted his fellow physicians while he has been tilting at others. As president of the Alaska State Medical Association, he saw his colleagues doing very little about Alaska Native, drug, youth and penal problems, the war in Viet Nam and women's liberation. He declared, "It is incongrous and ludicrous that a group of men - and a few women - who are generally recognized as the best-endowed and best-educated as a group - can sit by and watch a whole sick society writhe in agony and blithely imply that it is not our baby . . . "

He proposed "that the Alaska State Medical Association has a right and responsibility to be concerned and to voice opinions about many social problems which it has been reluctant to do".

Dr. Langdon has prompted his fellow physician and warned that: "the hour is late and we have very little time. Let us work, for the night is coming".

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Thomas Harrison, M.D.

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Dr. Thomas Harrison is the recipient of the 1981 A.H. Robins Community Service Award. As many of Alaska's physicians, he came to the State in the mid 1960's in the blue uniform of the Public Health Service. He served as a general medical officer in a small remote hospital in the Norton Sound area. Upon completion of his USPHS tour he went to Los Angeles and a residency program. Three years later he returned to Anchorage where he has been in private practice.

Throughout his career, he has practiced consistently patient oriented medicine. He has served the community and his colleagues by being involved actively with the local grievance committee, the Friends of Medicine and recently as the Chief of the Medical Staff of Alaska Hospital during a difficult transition time. Dr. Harrison's leadership was influential in assuring the survival of the Alaska Hospital.

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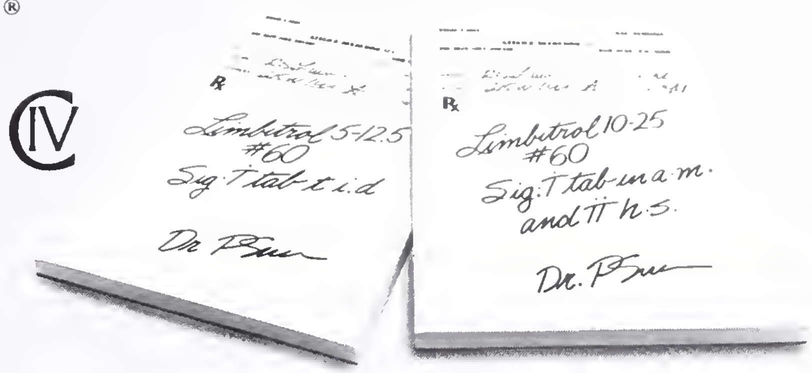

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SPECIFIC FOR THE NONPSYCHOTIC PATIENT

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Most patients with a mood disorder have a mixture of anxiety and depression. One clinician[1] found a correlation of 0.7 in anxiety and depression scores; another[2] has estimated that 7 of 10 nonpsychotic depressed patients are also anxious. For the dual symptomatology of anxious depression, Limbitrol provides dual medication.

More appropriate for the nonpsychotic depressed and anxious patient

Limbitrol contains both amitriptyline, specific for symptoms of depression, and a benzodiazepine, specific for the symptoms of anxiety. Thus it is a better choice than other dual agents for anxious depression that contain a phenothiazine, a class of antipsychotic drugs less specific for anxiety and now generally avoided in nonpsychotic patients.[2,3]

Avoids the risk of tardive dyskinesia carried by the phenothiazine combinations

The causal relationship between the phenothiazines and other extrapyramidal side effects, including tardive dyskinesia, is well established. In contrast, the reported incidence of these adverse reactions with Limbitrol or either of its components is rare.

References: 1. Claghorn J: *Psychosomatics 11*:438-441, Sept-Oct 1970 **2.** Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME. New York, Appleton-Century-Crofts, 1977, p 316 **3.** Baldessarini RJ, Tarsy D: Tardive dyskinesia, in *Psychopharmacology: A Generation of Progress*, edited by Lipton MA, DiMascio A, Killam KF. New York, Raven Press, 1978, p 999

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

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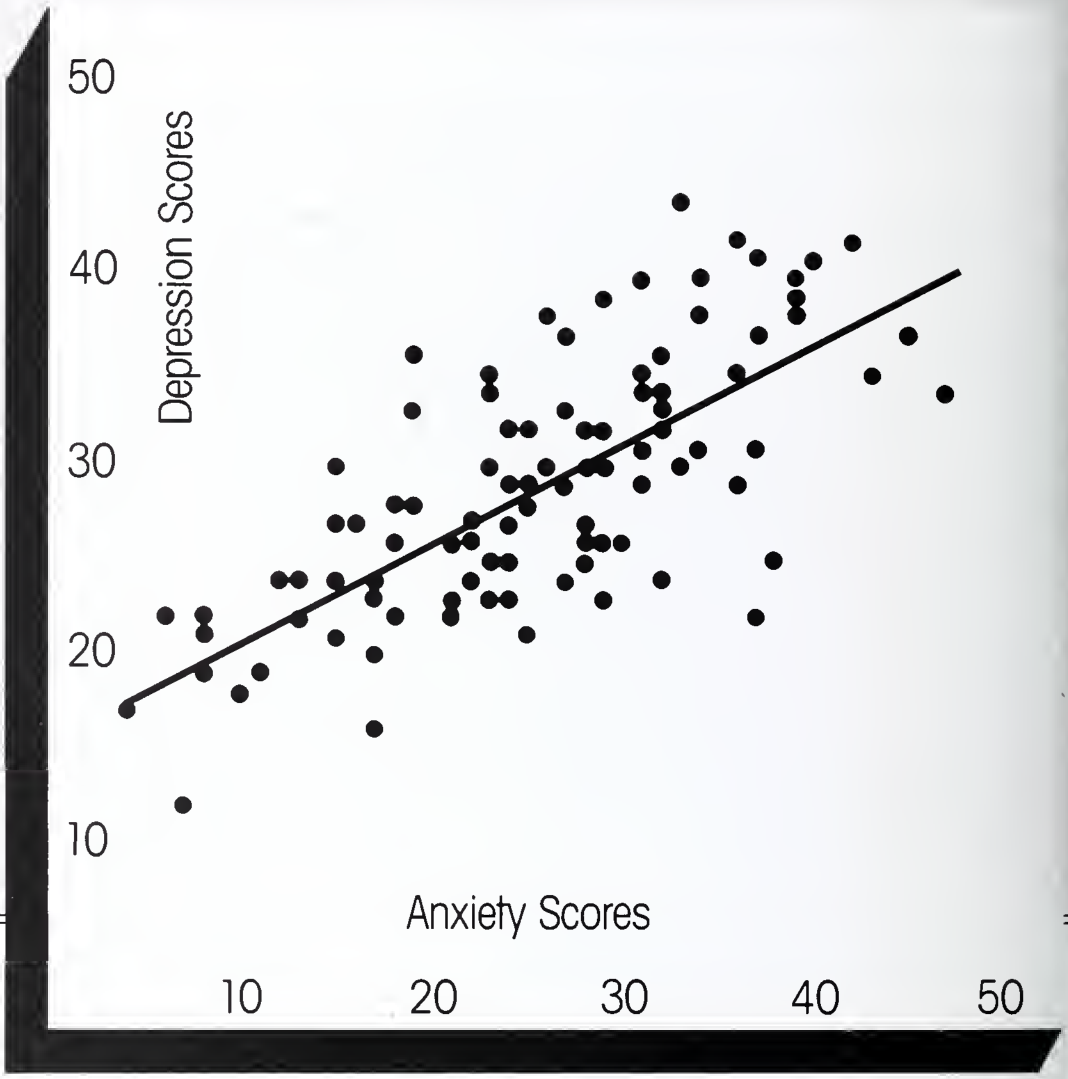
The graph illustrates the close correlation between depression and anxiety derived through the MMPI and the Taylor Manifest Anxiety Scale in 100 nonpsychotic psychiatric patients. The Coefficient of Correlation is 0.7. As depression increased, so did the anxiety levels.

—Adapted from Claghorn J[1]



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[1] Claghorn J: *Psychosomatics 11*:438-441, Sept-Oct 1970

Please see summary of product information on inside cover.

ALASKA MEDICINE

Volume 23, Number 5
September/October 1981

Feelings vs.

Some people feel that I am misused and overused and that I'm prescribed too often and for too many kinds of problems.

The FACT is that approximately eight million people, or about 5 percent of the U.S. adult population, will use me during the current year. By contrast, the national health examination survey (1971-1975) found that 25 percent of the U.S. adult population experiences moderate to severe psychological distress. Additionally, studies of patient attitudes revealed that most patients have realistic views regarding the limitations of tranquilizers and a strong conservatism about their use, as evidenced by a general tendency to *de*crease intake over time. Finally, a six-year, large-scale, carefully conducted national survey showed that the great majority of physicians appropriately prescribe tranquilizers.

Some people feel that patients being treated with anxiolytic drugs are "weak," can't tolerate the anxieties of normal daily living, and should be able to resolve their problems on their own without the help of medication.

The FACT is that while most people can withstand normal, everyday anxieties, some people experience excessive and persistent levels of anxiety due to personal or clinical problems. An extensive national survey concluded that Americans who do use tranquilizers have substantial

Facts

justification as evidenced by their high levels of anxiety. It was further noted that antianxiety drugs are not usually prescribed for trivial, transient emotional problems.

Some people feel afraid of me because of the stories they've heard about my being harmful and having the potential to produce physical dependence.

The FACT is that there are thousands of references in the medical literature documenting my efficacy and safety. Extensive and painstakingly thorough studies of toxicological data conclude that I am one of the safest types of psychotropic drugs available. Moreover, I do not cause physical dependence if the recommended dosage and therapeutic regimen are followed under careful physician supervision. However, I can produce dependence if patients do not follow their physicians' directions and take me for prolonged periods, at dosages that exceed the therapeutic range. Patients for whom I have been prescribed should be cautious about their use of alcohol because an additive effect may result.

Many of the most knowledgable people feel that I became the No. 1 prescribed medication in America because no other tranquilizer has been proven more effective. Or safer.

The FACT is they are right.

For a brief summary of product information on Valium (diazepam/Roche) ⒸIV, please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

VA 15U— REV 1

Prepared by William Douglas McAdams, Inc.

Valium® Ⓘⓥ
diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy)
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies The physician should periodically reassess the usefulness of the drug for the individual patient
Contraindicated: Known hypersensitivity to the drug Children under 6 months of age Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy
Warnings: Not of value in psychotic patients Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy, gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies Observe usual precautions in impaired renal or hepatic function Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation
The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration The clinical significance of this is unclear
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy
Dosage: Individualize for maximum beneficial effect *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b i d to q i d , alcoholism, 10 mg t i d or q i.d in first 24 hours, then 5 mg t i d or q i d as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t i.d or q i.d , adjunctively in convulsive disorders, 2 to 10 mg b i.d to q i d *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated (See Precautions) *Children* 1 to 2½ mg t i d or q i d initially, increasing as needed and tolerated (not for use under 6 months)
Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50, available in trays of 10

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ALASKA MEDICINE

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Volume 23 September/October Number 5

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ALASKA'S NEW COMMITMENT LAW FOR THE MENTALLY ILL

Verner Stillner, M.D., M.P.H.

James L. Scoles

Carol C. Greenough, Ph.D.

Introduction

The care of Alaska's mentally ill became the responsibility of the territory instead of the U.S. Department of the Interior in 1957 with the passage of the Alaska Mental Health Act. This Act established laws defining commitment procedures and outlining duties and responsibilities of the Department of Health in its role of providing for the care and treatment of Alaska's mentally ill. This same Act became Alaska Statutes 47.30.010 - 47.30.340 (our existing commitment at) at the time of statehood and has remained virtually unchanged until the passage of Senate Bill 100 during the first session of the twelfth Alaska legislature. The bill was sponsored by Senators Parr, Stimson and Fischer (Parr being the prime mover) and signed into law on July 16, 1981 by Governor Hammond.

Senate Bill 100 was certainly not the first attempt to revise our commitment act; in fact, over the last six years four separate bills which would completely overhaul our statutes were before the legislature. The main effort to revise the statutes began in 1975 when Joyce Munson, Executive Director of the Alaska Mental Health Association, asked Joan Katz, a private attorney, to review our commitment laws. With the support of Clark Gruening and Genie Chance, some funding was obtained from the Legislature Affairs Agency to prepare a draft of a new mental health law for Alaska.

A 20 member mental health task force was appointed and held bi-monthly meetings from August through November of 1975. Their efforts culminated in draft legislation which was based on the laws of Washington, Arizona, California and the model code developed by the Mental Health Law Project. In February 1976 this draft bill was introduced to the second session of the ninth Alaska legislature as House Bill 733.

The bill ultimately died in committee but another version was introduced to the first session of the tenth Alaska legislature in 1977 by Representatives Parr, Cotton and Gruening. This bill (designated as House Bill 472) underwent many committee hearings and was further revised during the second session of the tenth legislature but finally died in committee when the legislature adjourned.

In 1979, Represenative Parr's interest in the mental health statutes continued to be keen and he introduced House Bill 2 to the first session of the eleventh legislature. This bill, like its forerunners, would completely revise Alaska's commitment act for mentally ill persons. Each of these bills was more refined than the last, and all contained provisions that reflected "state of the art" thinking in the care and treatment of the mentally ill. House Bill 2 had numerous hearings with countless hours of work being done on it. The bill passed the House Representatives but, during the second session, it died in committee after reaching the Senate.

Finally, in 1981, Senator Parr again introduced Senate Bill 100 to the first session of the twelfth Alaska legislature. This bill had already undergone much scrutiny as House Bill 2 and Senator Parr guided it through the legislature process passing both the Senate and the House without delay.

The enactment of Senate Bill 100 represents a six year effort involving the legislature, the Alaska Mental Health Association, the Governor's Mental Health Advisory Council, the Community Mental Health Center

Directors Association, the Alaska Psychiatric Institute, the Alaska Psychiatric Association, the State Division of Mental Health and Developmental Disabilities and many other interested persons.

The purpose of the major revisions of Alaska's civil commitment statutes is to more adequately protect the legal rights of persons suffering from mental illness. The new law seeks to balance the individual's constitutional right to physical liberty and the state's interest in protecting society from persons who are dangerous to others and protecting persons who are dangerous to themselves by providing due process safeguards at all stages of commitment proceedings. Additionally, the following principles of modern mental health care have guided the revisions:

(1) that persons be given every opportunity to accept voluntary treatment before involvement with the judicial system;

(2) that persons be treated in the least restrictive alternative environment consistent with their treatment needs;

(3) that treatment occur as promptly as possible and as close to the individual's home as possible;

(4) that a system of mental health community facilities and supports be available;

(5) that patients be informed of their legal rights and be informed of and allowed to participate in their treatment program as much as possible;

(6) that persons who are mentally ill but not dangerous to others be committed only if there is a reasonable expectation of improving their mental condition.

One of the main precepts of the bill is the development of local hospitalization for mentally ill patients that is closer to their homes. At the present time, Alaska's only designated treatment facility for involuntarily committed mentally ill patients is the Alaska Psychiatric Institute. The fiscal note attached to this legislation should provide sufficient funding to pay for the designation of two other treatment facilities capable of accepting involuntarily committee patients in Fiscal Year 1982. It is the goal of the Division of Mental Health and Developmental Disabilities to designate 4 more facilities in Fiscal Year 1983 and 5 additional facilities in Fiscal Year 1984. This will allow an individual to receive treatment in the least restrictive environment close to home and the individual's family. The provision of acute psychiatric care (less than 21 days) in general hospitals also decreases the stigmatization of mental versus physical disorders. Regionalization of in-patient psychiatric services represents a quantum leap forward from the distant care that some Alaskans received in Morningside Hospital in Portland, Oregon during the period of 1903-1962 and more recently at the Alaska Psychiatric Institute from 1962-1981. We hope it will be possible to accomplish the designation of some additional hospitals as a result of the bill.

The following sections of the new statutes are being presented in order to familiarize the reader with the admission process and requirements:

ARTICLE 7. VOLUNTARY ADMISSION FOR TREATMENT.

Sec. 47.30.670. STANDARDS FOR VOLUNTARY ADMISSION. A person 14 years of age or older may be voluntarily admitted to a treatment facility if he is suffering from mental illness and he voluntarily signs the admission papers.

Sec. 47.30.675. NOTICE OF RIGHTS. (a) Upon the application of a person for voluntary admission, or at the time a person admitted under AS 47.30.690 reaches the age of 14, he shall be given a copy of the following documents which shall be explained to him as necessary:

(1) notice of rights as set out in AS 47.30.825 - 47.30.865 and an explanation of any document served upon him; and

(2) notice that should he desire to leave at a time when the treatment facility determines that he is mentally ill and as a result is likely to cause serious harm to himself and others or is gravely disabled, the facility could initiate commitment proceedings against him.

(b) If an applicant for voluntary admission does not understand English, the explanation shall be given in a language he understands.

Sec. 47.30.680. DISCHARGE OF VOLUNTARY PATIENTS. A patient who no longer meets the standards established in AS.30.670 shall be discharged from the treatment facility.

Sec. 47.30.685. NOTICE OF INTENT TO LEAVE FACILITY; COMMITMENT. (a) A minor under the age of 14 may be admitted for 21 days evaluation, diagnosis and treatment at a designated treatment facility if his parent or guardian signs the admission papers and if, in the opinion of the professional person in charge,

(1) he is gravely disabled or is suffering from mental illness and as a result he is likely to cause serious harm to himself or others;

(2) there is no less restrictive alternative available for his treatment; and

(3) there is reason to believe that the patient's mental condition could be improved by the course of treatment.

(b) The minor may be released by the treatment facility at any time during the 21-day period if the professional person in charge or his designated mental health professional determines the minor would no longer benefit from continued hospitalization and the minor is not dangerous. The minor's parents or his guardian must be notified by the facility of the contemplated release and that, unless they initiate involuntary commmitment proceedings, the minor will be released.

Sec.47.30.695. NOTICE OF REQUEST

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BRIEF SUMMARY

INDICATIONS AND USAGE

For the prevention and treatment of nocturnal recumbency leg muscle cramps

CONTRAINDICATIONS

Quinamm may cause fetal harm when administered to a pregnant woman Congenital malformations in the human have been reported with the use of quinine, primarily with large doses (up to 30 g) for attempted abortion In about half of these reports the malformation was deafness related to auditory nerve hypoplasia Among the other abnormalities reported were limb anomalies, visceral defects, and visual changes In animal tests, teratogenic effects were found in rabbits and guinea pigs and were absent in mice, rats, dogs, and monkeys Quinamm is contraindicated in women who are or may become pregnant If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus

Because of the quinine content, Quinamm is contraindicated in patients with known quinine hypersensitivity and in patients with glucose-6-phosphate dehydrogenase (G-6-PD) deficiency

Since thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients, a history of this occurrence associated with previous quinine ingestion contraindicates its further use Recovery usually occurs following withdrawal of the medication and appropriate therapy

This drug should not be used in patients with tinnitus or optic neuritis or in patients with a history of blackwater fever

WARNINGS

Repeated doses or overdosage of quinine in some individuals may precipitate a cluster of symptoms referred to as cinchonism Such symptoms, in the mildest form, include ringing in the ears, headache, nausea, and slightly disturbed vision, however, when medication is continued or after large single doses, symptoms also involve the gastrointestinal tract, the nervous and cardiovascular systems, and the skin

Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine Quinamm should be stopped immediately if evidence of hemolysis appears

If symptoms occur, drug should be discontinued and supportive measures instituted In case of overdosage, see OVERDOSAGE section of prescribing information

PRECAUTIONS

General

Quinamm should be discontinued if there is any evidence of hypersensitivity (See CONTRAINDICATIONS) Cutaneous flushing, pruritus, skin rashes, fever, gastric distress, dyspnea, ringing in the ears, and visual impairment are the usual expressions of hypersensitivity particularly if only small doses of quinine have been taken Extreme flushing of the skin accompanied by intense, generalized pruritus is the most common form Hemoglobinuria and asthma from quinine are rare types of idiosyncrasy

In patients with atrial fibrillation, the administration of quinine requires the same precautions as those for quinidine (See Drug Interactions)

Drug Interactions

Increased plasma levels of digoxin and digitoxin have been demonstrated in individuals after concomitant quinidine administration Because of possible similar effects from use of quinine, it is recommended that plasma levels for digoxin and digitoxin be determined for those individuals taking these drugs and Quinamm concomitantly

Concurrent use of aluminum-containing antacids may delay or decrease absorption of quinine

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants

The effects of neuromuscular blocking agents (particularly pancuronium succinylcholine and tubocurarine) may be potentiated with quinine and result in respiratory difficulties

Urinary alkalizers (such as acetazolamide and sodium bicarbonate) may increase quinine blood levels with potential for toxicity

Drug Laboratory Interactions

Quinine may produce an elevated value for urinary 17-ketogenic steroids when the Zimmerman method is used

Carcinogenesis, Mutagenesis, Impairment of Fertility

A study of quinine sulfate administered in drinking water (0 1%) to rats for periods up to 20 months showed no evidence of neoplastic changes

Mutation studies of quinine (dihydrochloride) in male and female mice gave negative results by the micronucleus test Intraperitoneal injections (0 5 mM kg) were given twice, 24 hours apart Direct *Salmonella typhimurium* tests were negative, when mammalian liver homogenate was added positive results were found

No information relating to the effect of quinine upon fertility in animal or in man has been found

Pregnancy

Category X See CONTRAINDICATIONS

Nonteratogenic Effects

Because quinine crosses the placenta in humans, the potential for fetal effects is present Stillbirths in mothers taking quinine have been reported in which no obvious cause for the fetal deaths was shown Quinine in toxic amounts has been associated with abortion Whether this action is always due to direct effect on the uterus is questionable

Nursing Mothers

Caution should be exercised when Quinamm is given to nursing women because quinine is excreted in breast milk (in small amounts)

ADVERSE REACTIONS

The following adverse reactions have been reported with Quinamm in therapeutic or excessive dosage (Individual or multiple symptoms may represent cinchonism or hypersensitivity)

Hematologic acute hemolysis thrombocytopenic purpura agranulocytosis hypoprothrombinemia

CNS visual disturbances including blurred vision with scotomata photophobia diplopia diminished visual fields and disturbed color vision tinnitus, deafness and vertigo headache, nausea vomiting, fever, apprehension restlessness confusion, and syncope

Dermatologic allergic cutaneous rashes (urticarial the most frequent type of allergic reaction, papular, or scarlatinal), pruritus flushing of the skin sweating occasional edema of the face

Respiratory asthmatic symptoms

Cardiovascular anginal symptoms

Gastrointestinal nausea and vomiting (may be CNS-related) epigastric pain

DRUG ABUSE AND DEPENDENCE

Tolerance abuse or dependence with Quinamm has not been reported

OVERDOSAGE

See prescribing information for a discussion on symptoms and treatment of overdose

DOSAGE AND ADMINISTRATION

1 tablet upon retiring If needed 2 tablets may be taken nightly—1 following the evening meal and 1 upon retiring

After several consecutive nights in which recumbency leg cramps do not occur Quinamm may be discontinued in order to determine whether continued therapy is needed

Product Information as of October 1980

Licensor of Merrell*

MERRELL-NATIONAL LABORATORIES Inc
Cayey Puerto Rico 00633

Direct Medical Inquiries to

Merrell

DOW

MERRELL DOW PHARMACEUTICALS INC.
Subsidiary of The Dow Chemical Company
Cincinnati, OH 45215, U S.A.

1-8137 (Y437C)MNQ-699

works well in your office . . .

NEOSPORIN® Ointment

(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

works just as well in their homes.

- It's effective therapy for abrasions, lacerations, open wounds, primary pyodermas, secondarily infected dermatoses.
- It provides broad-spectrum overlapping antibacterial effectiveness against common susceptible pathogens, including staph and strep.

- It helps prevent topical infections, and treats those that have already started.
- It contains three antibiotics that are rarely used systemically.
- It is convenient to recommend without a prescription.

NEOSPORIN® Ointment—for the office, for the home.
(polymyxin B-bacitracin-neomycin)

Effective • Economical • Convenient • Recommendable

Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

Wellcome

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

FOR RELEASE OF MINORS UNDER 14 YEARS OF AGE FROM DETENTION AND COMMITMENT. The parent or guardian of a minor who is less than 14 years of age may request and obtain immediate release of the minor at any time, unless as the result of mental illness, the minor is likely to cause serious harm to himself or others.

ARTICLE 8. INVOLUNTARY ADMISSION FOR TREATMENT

Sec.47.30.700. INITIATION OF INVOLUNTARY COMMITMENT PROCEDURES. (a) Upon petition of any adult, a judge shall immediately conduct a screening investigation or direct a local mental health professional employed by the department or by a local mental health program that receives money from the department under AS 47.30.520 - AS 47.30.620 or another mental health professional designated by the judge, to conduct a screening investigation of the person alleged to be mentally ill and, as a result of that condition, alleged to be gravely diabled or to present a likelihood of serious harm to himself or others. Within 48 hours after the completion of the screening investigation, a judge may issue an ex parte order orally or in writing, stating that there is probably cause to believe the respondent is mentally ill and that condition causes the respondent to be gravely disabled or to present a likelihood of serious harm to himself or others. The court shall provide findings on which the conclusion is based, appoint an attorney to represent the respondent, and may direct that a peace officer take the person into custody and deliver him to the nearest appropriate facility for emergency examination or treatment. The ex parte order shall be provided to the respondent and made a part of the resondent's clinical record. The court shall confirm an oral order in writing within 24 hours after it is issued.

(b) The petition required in (a) of this section shall allege that the respondent is reasonably believed to present a likelihood of serious harm to himself or others or is gravely disabled as a result of mental illness and shall specify the factual information on which that belief is based including the names and addresses of all persons known to the petitioner who have knowledge of those facts through personal observation.

Sec.47.30.705. EMERGENCY DETENTION FOR EVALUATION. A peace officer who has probable cause to believe that a person is gravely disabled or is suffering from mental illness and is likely to cause serious harm to himself or others of such an immediate nature that considerations of safety do not allow initiation of involuntary commitment procedures set out in AS 47.30.700, may cause the person to be taken into custody and delivered to the nearest evaluation facility. A correctional facility may be used as an emergency evaluation facility if an evaluation facility is not available. Upon arrival at the evaluation facility, the peace officer shall complete an application for examination of the person in custody and be interviewed by a mental health professional at the facility.

Sec.47.30.710. EXAMINATION. (a) A respondent who is delivered under AS 47.30.700 or 47.30.705 for emergency examination and treatment to an evaluation facility shall be examined and evaluated as to his mental and physical condition by a mental health professional and by a physician within 24 hours after arrival at the facility.

(b) If the mental health professional who performs the emergency examination has reason to believe that the respondent is (1) mentally ill and that condition causes the person to be gravely disabled or to present a likelihood of serious harm to himself or others, and (2) is in need of care or treatment, the mental health professional may hospitalize him, or arrange for hospitalization, on an emergency basis. If a judicial order has not been obtained under AS 47.30.700, the mental health professional shall apply for an ex parte order authorizing hospitalization for evaluation.

At this point, the facility will have 72 hours to evaluate the patient and the patient will:

(1) be discharged because he or she does not meet the standards for commitment; or

(2) admit himself or herself voluntarily; or

(3) have a petition for commitment filed and a 21-day commitment hearing held (the 72-hours time limit for the hearing may be waived by the respondent for up to 7 calendar days from his arrival at the facility if he is represented by council).

It is important to recognize that the new standard for commitment is ". . . gravely disabled or is suffering from mental illness and is likely to cause serious harm to himself or others". Gravely disabled is defined as "... a condition in which a person, as a result of mental illness, is in danger of physical harm arising from such complete neglect of basic needs for food, clothing, shelter or personal safety as to render serious accident, illness or death highly probable if care by another is not taken". A mental illness is defined as an ". . . organic, mental or emotional impairment which has substantial adverse effects on an individual's ability to exercise conscious control of his actions or ability to perceive reality or to reason or understand; mental retardation, epilepsy, drug addition and alcoholism do not per se constitute mental illness, although persons suffering from these conditions may also be suffering from mental illness". The examination and evaluation under the statutes requires a physical examination by a

Medical Insurance Exchange of California

Medical Underwriters of California Attorney-in-Fact

THREE EMBARCADERO CENTER • SUITE 1350 • SAN FRANCISCO, CALIFORNIA 94111 • 415/393-5000 (call collect)

When choosing a Professional Liability carrier, consider these facts:

MIEC was one of the first physician-owned professional liability companies formed by physicians during the "malpractice crisis" in 1975. Over 2500 physicians in five states are now insured, through the sponsorship of county and state medical societies including the Alaska State Medical Association. **MIEC** is and will remain conservatively financed to assure stability and longevity. No other objective is more important in the professional liability field.

MIEC's claims-made policy provides:

Guaranteed availability of Reporting Endorsement (tail coverage) if the insurance is dropped for any reason. "Tail" premium spread over three years.

"Tail Coverage" provided at **no further cash outlay** if you cancel due to:

- *Retirement at age 55 or over (provided the physician has been insured with* **MIEC** *for 10 consecutive years at the time of retirement.)*
- *Death*
- *Permanent disability*

MIEC offers a choice of liability limits:

1) $500,000/$1,500,000
2) $1,000,000/$3,000,000
3) $2,000,000/$4,000,000
4) $5,000,000/$5,000,000

MIEC has established special rating rules:

New physicians first entering private practice after completion of internship or residency:

- *Receive a 50% Premium Reduction during first year of practice.*
- *Receive a 25% Premium Reduction during second year of practice.*

Part-time or Semi-retired physicians who do not perform or assist at surgery can:

- *Receive a 50% Premium Reduction if they practice less than twenty (20) hours (two days) per week.*
- *Receive a 25% Premium Reduction if they practice less than ten (10) hours (one day) per week.*

MIEC is truly physician owned and controlled.

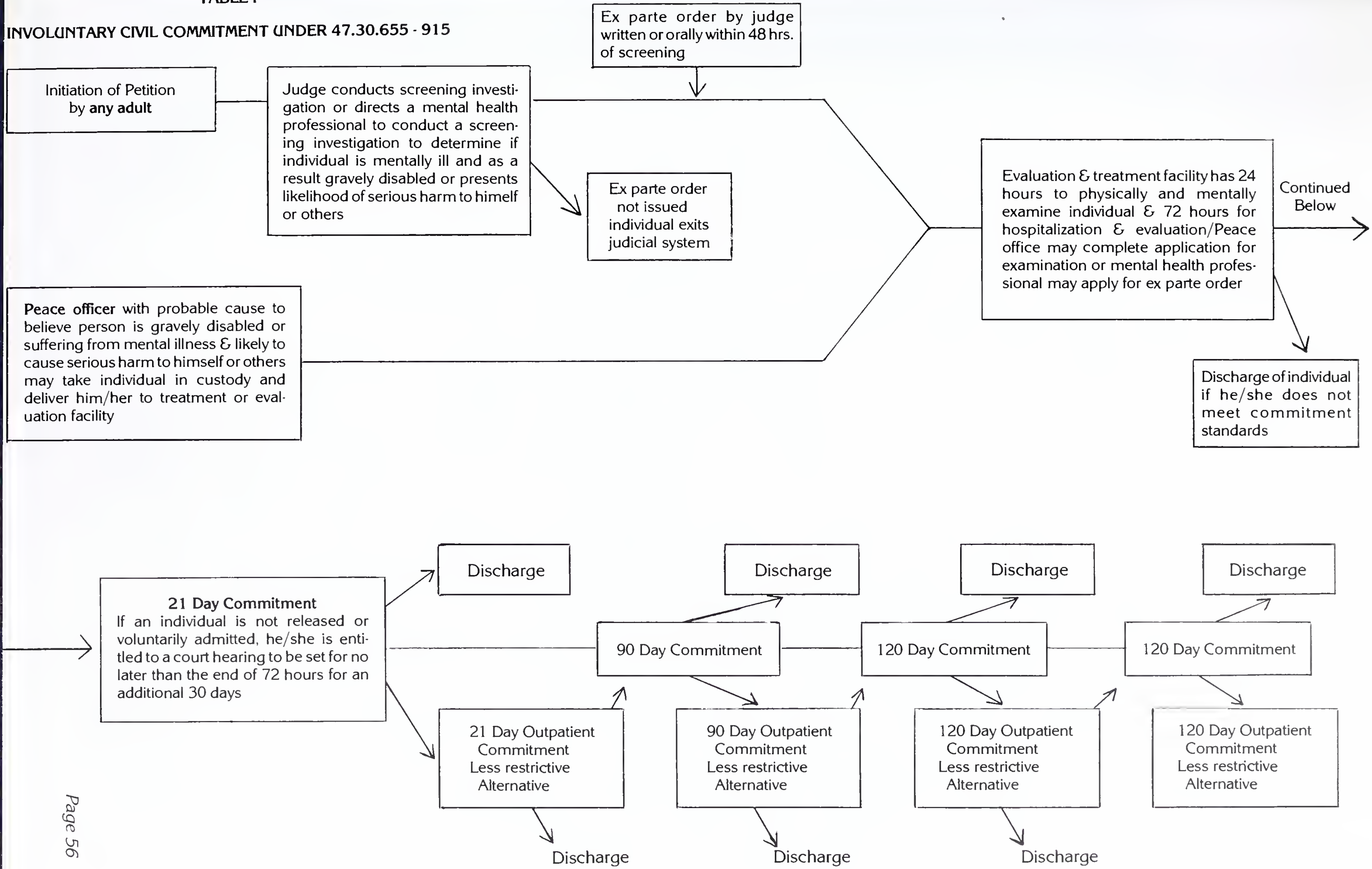
- *Administrative expenses are lower than those of commercial carriers. Less of the premium dollar goes to expenses of operating* **MIEC**. *This leaves more funds available to pay losses. Income from investment of funds inures to the benefit of* **MIEC's** *policyholder-owners and is currently sufficient to pay* **all** *administrative costs.*
- *Overall company policy is determined by the Board of Governors which is comprised* **entirely** *of* **MIEC** *insured physicians and represents the geographic areas of* **MIEC's** *operations.*
- *Operating company (Attorney-in-Fact) is owned and controlled by organized medicine (state and county medical societies) and* **not** *by a private, for-profit organization.*
- *Organized medicine plays an important part in underwriting activities, loss prevention and claims handling through active participation by medical society peer review committees.*
- **MIEC** *maintains reinsurance in accordance with prudent and conservative insurance practice.*
- **MIEC** *has policyholders surplus over $14 million. As of August 1, 1981, surplus contributions are no longer required by policyholders of* **MIEC**.

For information contact **Alaska State Medical Association, 4107 Laurel Street, Anchorage, Alaska 99504, (907) 277-6891**

Medical Insurance Exchange of California
Medical Underwriters of California Attorney-in-Fact
Three Embarcadero Center, Suite 1350, San Francisco, California 94111, Phone (415) 393-5000 (call collect)

TABLE I

INVOLUNTARY CIVIL COMMITMENT UNDER 47.30.655 - 915


Initiation of Petition by **any adult**
Judge conducts screening investigation or directs a mental health professional to conduct a screening investigation to determine if individual is mentally ill and as a result gravely disabled or presents likelihood of serious harm to himelf or others
Ex parte order by judge written or orally within 48 hrs. of screening
Ex parte order not issued individual exits judicial system
Peace officer with probable cause to believe person is gravely disabled or suffering from mental illness & likely to cause serious harm to himself or others may take individual in custody and deliver him/her to treatment or evaluation facility
Evaluation & treatment facility has 24 hours to physically and mentally examine individual & 72 hours for hospitalization & evaluation/Peace office may complete application for examination or mental health professional may apply for ex parte order
Continued Below
Discharge of individual if he/she does not meet commitment standards
21 Day Commitment If an individual is not released or voluntarily admitted, he/she is entitled to a court hearing to be set for no later than the end of 72 hours for an additional 30 days
Discharge
21 Day Outpatient Commitment Less restrictive Alternative
Discharge
90 Day Commitment
Discharge
90 Day Outpatient Commitment Less restrictive Alternative
Discharge
120 Day Commitment
Discharge
120 Day Outpatient Commitment Less restrictive Alternative
Discharge
120 Day Commitment
Discharge
120 Day Outpatient Commitment Less restrictive Alternative

physician and a mental status examination by a mental health professional. A mental health professional under 47.30.915 is defined as a psychiatrist or physician who is licensed to practice in this state or employed by the federal government; a clinical psychologist or psychological associate with clinical or counseling specialty licensed by the state Board of Psychologists and Psychological Associate Examiners; a registered nurse with a master's degree in psychiatric nursing, licensed by the State Board of Nursing; and a social worker with a master's degree in social work and experience in the field of mental illness.

Throughout the examination, evaluation and commitment process the respondent must be examined by a physician **and** a mental health professional as to his physical and mental condition. Thus, the present PHYSICIAN'S CERTIFICATE requiring only one physician's signature will be replaced by forms requiring both a physician's signature and a mental health professional's signature during the involuntary commitment process. In the absence of a non-physician mental health professional, two physician's signatures could initiate the process of commitment.

The first evaluation period is for 72 hours and subsequent commitment periods are for 21 days, 90 days and then every 120 days. (Table I). It should be noted that the 72-hour period excludes Saturdays, Sundays, legal holidays or any period of time necessary to transport the patient to the facility.

Another new provision found in 47.30.795 permits a patient to be committed to involuntary out-patient treatment if a provider of out-patient care accepts him or her for specified out-patient treatment and requires that the evaluation staff during the commitment process consider such less restrictive alternatives in making commitment recommendations.

While treatment for committed patients will always be available at a state operated hospital, the bill requires placement for treatment at the designated facility closest to the patient's home when this facility will accept the patient and can offer appropriate treatment. Thus, the role of local providers is greatly expanded. They may be involved in screening, in evaluation for commitment and in provision of out-patient and in-patient treatment of the committed person.

The new statutes will be implemented on October 1, 1981. The changing of statutes that have existed for over 24 years will require a period of adjustment. The Division of Mental Health and Developmental Disabilities will plan for a smooth transition by sponsoring workshops on the new statutes and will provide on-going technical assistance to interested parties involved in implementing the bill. We seek your cooperation in this new era of care for the mentally ill in Alaska.

mentally ill in Alaska.

Note: Anyone wishing to receive a copy of the new commitment law should write to the Legislative Affairs Agency, Information Office, Pouch Y, Juneau, Alaska 99811 and request Chapter 84, SLA 1981.

From the Division of Mental Health and Developmental Disabilities, Pouch H-04, Juneau, Alaska 99811

**For the pain of osteoarthritis
the proven power of**

Motrin®
ibuprofen, Upjohn
600 mg Tablets
One tablet t.i.d.

Please see the following page for a brief summary of prescribing information.

Upjohn

1981 The Upjohn Company

The Upjohn Company • Kalamazoo, Michigan 49001 USA

Motrin® Tablets (ibuprofen, Upjohn)

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema, and bronchospastic reactivity to aspirin, iodides, or other non-steroidal anti-inflammatory agents. Anaphylactoid reactions have occurred in such patients.

Warnings: Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. *Motrin* should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If *Motrin* must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Chronic studies in rats and monkeys have shown mild renal toxicity characterized by papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin*.

Precautions: **Blurred and/or diminished vision**, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* and the patient should have an ophthalmologic examination, including central visual fields and color vision testing. **Fluid retention and edema** have been associated with *Motrin;* use with caution in patients with a history of cardiac decompensation or hypertension. *Motrin* is excreted mainly by the kidneys. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* safety in patients with chronic renal failure have not been done. *Motrin* can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy. Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema. To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* is added. The antipyretic, anti-inflammatory activity of *Motrin* may mask inflammation and fever.

Drug interactions. *Aspirin:* used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal, of which one or more occurred in 4% to 16% of the patients.

Incidence Greater Than 1% (but less than 3%) – Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence Less Than 1% – Probable Causal Relationship*

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with preexisting, significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence Less Than 1% – Causal Relationship Unknown*

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmia (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schönlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under *"Probable Causal Relationship" (PCR)* if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under *"Causal Relationship Unknown"* if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Do not exceed 2400 mg per day. If gastrointestinal complaints occur, administer with meals or milk.

Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Caution: Federal law prohibits dispensing without prescription.

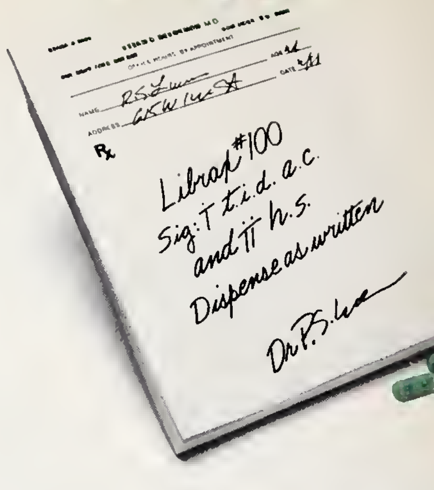
MED B-5-S

Upjohn THE UPJOHN COMPANY
Kalamazoo, Michigan 49001 USA

J-9042-4

July 1981

Specify Librax®



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE®
Roche Products Inc.
Manati, Puerto Rico 00701

ROCHE

IN THE G.I. DISORDERS

of Irritable Bowel Syndrome* and Peptic Ulcer*

Librax...the only G.I. medication that provides the action of Librium® (chlordiazepoxide HCl) to relieve the accompanying anxiety found in some patients, plus the action of Quarzan® (clidinium bromide) to reduce colonic spasm and gastric hypersecretion.

Specify

Adjunctive

Librax®

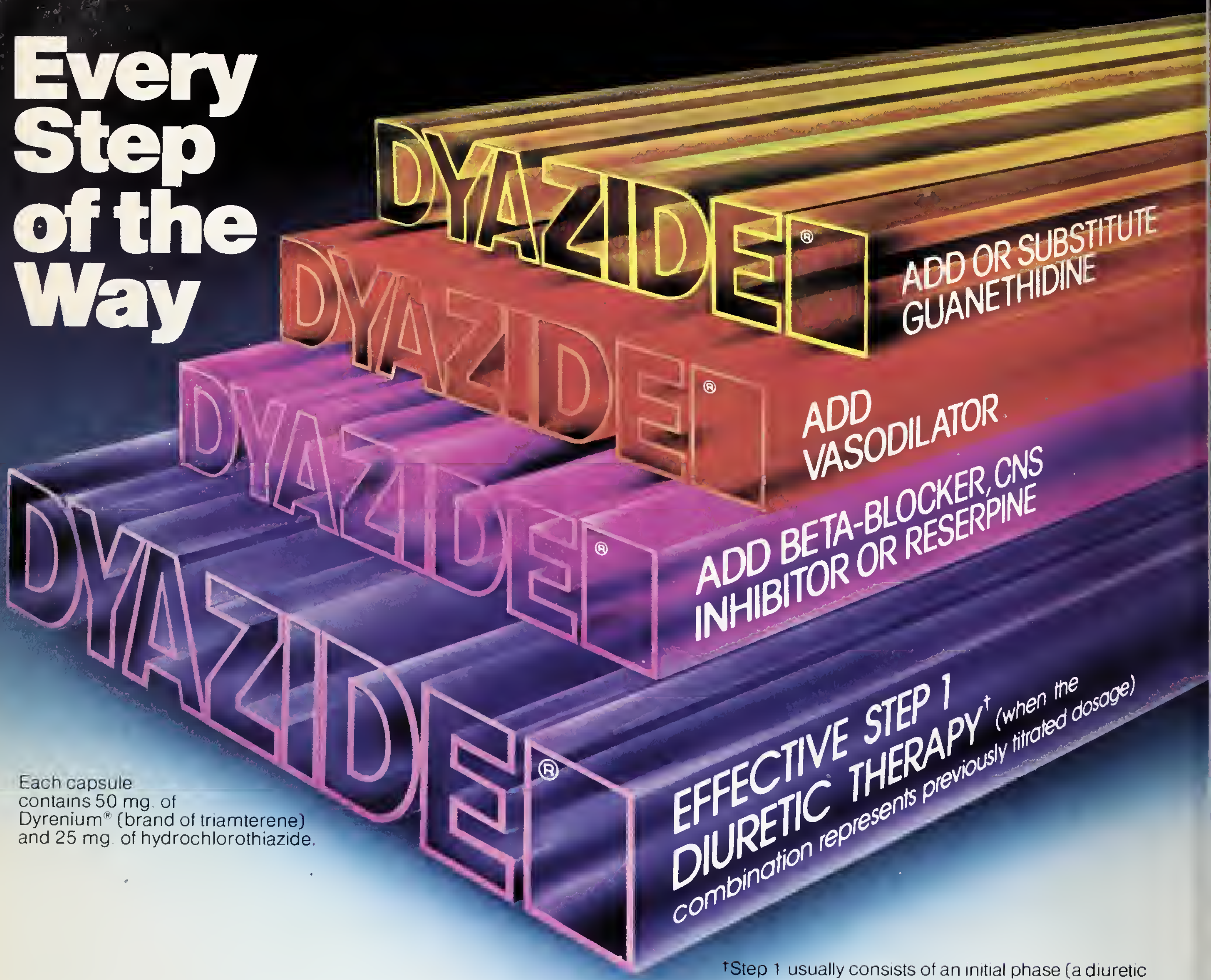
Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Antianxiety/Antisecretory/ Antispasmodic

*Librax has been evaluated as possibly effective for these indications. Please see summary of prescribing information on facing page.

In Hypertension*...When You Need to Conserve K^+

Every Step of the Way



DYAZIDE®
ADD OR SUBSTITUTE GUANETHIDINE
DYAZIDE®
ADD VASODILATOR
DYAZIDE®
ADD BETA-BLOCKER, CNS INHIBITOR OR RESERPINE
DYAZIDE®
EFFECTIVE STEP 1 DIURETIC THERAPY† (when the combination represents previously titrated dosage)

Each capsule
contains 50 mg. of
Dyrenium® (brand of triamterene)
and 25 mg. of hydrochlorothiazide.

†Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K^+ supplement or K^+-sparing agent), and a maintenance phase (a diuretic alone or in combination with a K^+ supplement or K^+-sparing agent).

Serum K^+ and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established.

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HEALTH HAZARD AND RISK ASSESSMENT OF THE DOW-SHELL GROUP PROPOSED PETROCHEMICAL INDUSTRY

John Middaugh, M.D.

This report was prepared on the basis of research conducted by the author between May-August, 1981. More than thirty of the nation's leading experts on petrochemicals and health were consulted and great weight was given to their opinions (Appendix A). Tasks included a visit to petrochemical plants in Alberta, Canada, meetings with Canadian government officicals, and meetings with physicians, epidemiologists, and toxicologists at Dow Corporate Headquarters in Midland, Michigan. A second trip allowed for detailed discussions with scientists at the National Cancer Institute, Washington, D.C., and a brief visit with Dr. Samuel Epstein in Chicago, Illinois. More than one hundred original published scientific articles, numerous comprehensive reviews and summary documents, and several books were studied and reviewed. A complete bibliography will be available from the author.

The author makes no claim to expertise in the fields of toxicology and epidemiology related to petrochemicals. This report is based upon critically reviewed data and consultants with experts, and attempts to provide an accurate picture of the current status of health issues related to petrochemicals. Work and learning continues. This report, a technical paper not to be construed necessarily as the official policy of the Department of Health and Social Services, will be sent to numerous leading scientists as part of a review process (Appendix B). It is my hope that this document will provide a source of useful data to help Alaskans arrive at an informed decision about the future of petrochemicals in Alaska.

John Middaugh, M.D.
State Epidemiologist
Division of Public Health
September 9, 1981

Alaskans face a unique challenge in arriving at decisions about an Alaskan petrochemical industry. Substantial concerns are shared by industry, workers, governments, and communities about the safety of many of the chemicals which will be produced by the proposed petrochemical complex. Acute and chronic adverse human health effects have occurred as a result of exposure to toxic chemicals. Scientific knowledge is limited and clear cut answers are unavailable.

Health effects

The petrochemical industry has an enviable record of occupational injury and illness incidence rates when compared to the total manufacturing industry. However, health risk and hazard assessment has focused recently on chronic disease problems of increasing concern nationally and in Alaska. Certain petrochemicals have been shown to be carcinogens, mutagens, and teratogens (Appendix C). These chemicals have caused human cancers, sterility, infertility, miscarriages, and congenital malformations.

A wide variety of cancers, including leukemia and aplastic anemia, skin cancers, bladder cancer, angiosarcoma of the liver, and lung cancer, have been caused by petrochemicals. Recent epidemiologic studies by National Institute of Occupational Safety and Health (NIOSH) seem to confirm a two to threefold increased risk of brain cancer in certain petrochemical employees in Texas, although results have not yet been published and are disputed by the industry. Systemic human illness involving the central nervous system has been documented or increasingly suspected to be caused by petrochemicals, including peripheral nerve damage and neuropsychiatric disorders. In addition to these adverse health effects documented among workers, similar illnesses have been suspected to occur with increased frequency in people living near petrochemicals plants.

Because the basic biological mechanisms at the cellular level are not well understood, medical cures remain elusive and the extent of the problem remains undefined. Formidable scientific barriers exist and must be overcome before precise data is available to improve our understanding and to allow for control of

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these man-made diseases.

Of considerable concern is the long-term nature of many of the adverse human health effects. Exposures to toxic chemicals may not result in disease until ten to forty years later (latency). And, once an acute exposure occurs, continued progression of clinical manifestations of the adverse process can occur in the absence of continued exposure. Little data is available to predict reliably "safe" exposure levels, and, at least for carcinogens, there is no scientific method to determine reiably a threshold for a carcinogen for a population. In addition, little reliable data is available to determine what risks can be expected from a range of doses to a given chemical. Chromosomal damage and environmental bioaccumulation could result in adverse health effects which span generations.

Groups at risk:

Adverse health effects must be considered separately for different groups at different risks of exposure. At greatest risk are employees facing occupational exposures with a gradient of risk based on the particular job duties. Also of importance is whether or not a worker is employed by industry or is a contractor performing intermittent on-site work. Another group is para-occupationally exposed and consists primarily of families of workers who, for example, may have exposures from dust or chemicals impregnated on clothes and brought into the home. Finally, the largest group consists of the general population living in proximity to a petrochemical plant.

Method of human exposure:

Human exposure to petrochemicals takes place by three routes: inhalation, ingestion, and absorption through the skin. Inhalation is the predominant method of exposure, although ingestion and dermal absorption can be significant problems. The extreme environmental persistence of some petrochemicals is germane to exposure by ingestion as demonstrated by the accumulation of toxic chemicals in fish in the mid-west with subsequent warning by their health departments for people to restrict game fish consumption. Exposures by inhalation are to chemicals produced inside the plant and to their intermediates and by-products through "fugitive emissions" (leaks from valves, gaskets, etc.) as well as to waste emissions. Unusually high exposures to workers can also occur during maintenance and during spills or leaks. Finally, air quality may be affected by the emissions from power plants from the increased automobile secondary to population growth brought about by the industrial development.

Cancer - background:

Great attention has been focused on the problem of cancer and petrochemicals. Epidemiologic studies have clearly established that a large percentage of cancers are related to lifestyle and environmental factors, and are theoretically preventable. Debate had raged over what exact percentage of current cancers are due to occupational exposures (5% - 38%), and whether or not an epidemic of cancer is currently sweeping the United States. It is of great importance to review carefully the available data and to critically examine claims.

Cancer is not one disease, but rather a group of hundreds of distinct varieties with different causes and manifestations. Cancers of different organs must be considered largely as independent diseases. In addition, risks of cancer from petrochemicals can be expeted to affect only people exposed to petrochemicals and then to only certain types of cancer. There is a great difference between incidence rates of cancer (number of new cases of cancer in a defined population per year) and mortality rates of cancer (number of persons dying of cancer in a defined population per year). Comparison of rates is not valid unless all parameters are comparable. Therefore, discussions of crude mortality rates for all cancers for the entire United States population provide no useful data in assessing cancer hazards of the petrochemical industry. Only meticulous review of specific cancer incidence and mortality rates by age, sex, race and other epidemiologic parameters in defined populations with known petrochemical exposure levels can provide useful data about health risks. Carefully controlled scientific studies are a must. Data easily can be distorted to provide unrealistic conclusions.

Relatively few chemicals have been found to be carcinogenic and available evidence indicates that most substances do not cause cancer. In humans, 26 chemicals are thought to be proven carcinogens and less definitive evidence implicates 56 additional chemicals. On the basis of accepted experimental testing methods, 247 of 368 chemicals critically reviewed by the International Agency for Research on Cancer showed some evidence of carcinogenicity. Many of these substances were selected for testing because of their similarity to known carcinogens. Of all chemicals known to man, evidence of carcinogenicity is available for as few as 600-800.

Many scientific limitations exist which prevent definitive answers to health questions. Entire books have been written to elaborate principles for evaluating chemicals in the environment. Several important principles are:

1. The greater the amount of a carginogen present, and the longer the exposure to it, the greater is the risk of developing cancer (dose - response).

2. There is no known method for measuring or predicting a safe level of exposure to any carcinogen for a population group.

3. Positive evidence of carcinogenicity from well-designed epidemiologic studies should be accepted as a basis of regulating action although further testing is appropriate when contradictory evidence is available from other human and/or

animal studies.

Terms such as "toxicological insignificance", "safe", "no effect level", and "negligible risk" have been commonly used. All such terms essentially are value judgments which have no place in an objective assessment of risk. Better usage might be "no observed effect" always with a statement as to the size of the group in which no adverse effect was observed.

All types of cancer are thought to have long latency periods; that is, many years may pass between exposure to a cancer causing substance and the development of clinically detectable cancer. In addition, the amount of a carcinogen necessary to initiate cancerous disease may be extremely small and may require only a single exposure. Consideration must also be given to the effects of multiple exposures to multiple carcinogens. Little is known about adverse effects on human health from simultaneous exposure to more than one carcinogen. And, as some carcinogenic petrochemicals are very stable compounds, they may persist in the environment for hundreds of years. Some of the most stable chemicals may bioaccumulate and be concentrated over time in animal species, including man. There does exist a correlation between frequency and intensity of exposure (dose) and development of adverse health effects. The long latency periods pose great problems for scientific study and raise inevitable concerns about future cancer epidemics from exposures occurring at the present time.

Cancer - risk to a general population:

In addition to the clear documentation of certain cancers having been caused in workers exposed to certain chemicals, epidemiologic studies (rates of cancer by county of residence) done by the National Cancer Institute (NCI) have raised the possibility that people living in proximity to petrochemical industries have an increased risk of developing cancer. An association has been found between higher than normal rates of certain cancers and residency in counties in which petrochemical industries are located. These increased rates do not appear to be confined to only employees of the industry.

These studies cannot and do not provide proof of a cause and effect relationship between cancer and the petrochemical industry. They do, however, establish associations which need to be evaluated in detailed epidemiologic studies. In several instances, the associations found in the cancer-by-county report have led to the documentation of a specific chemically induced cancer, such as increased bladder cancers in chemical workers in New Jersey. Cancer-by-county analysis, however, did not reveal the possible increase in brain tumors in Texas petrochemical plants now under intensive study. Limitations in methodology make caution in interpretation essential, but these studies by NCI provide strong epidemiologic clues. While it is likely that additional carcinogenic chemicals will be discovered in the future, overall analysis would indicate that there is probably not a large increase in overall cancer incidence or prevalence from petrochemicals in the population at this time.

Risk to human reproduction and heredity:

In addition to concerns about chemical carcinogenesis, numerous adverse effects on human reproduction have occurred, although this area has received even less study than cancer. Chromosome breaks and damage can be caused by various petrochemicals, some of which are mutagens and/or teratogens. Time has not permitted adequate investigation into the current state of research and knowledge of reproductive adverse health effects of petrochemicals.

Chronic disease - problems in scientific study:

Information on adverse health effects has been obtained from epidemiologic studies, from studies on laboratory animals and from basic laboratory experimentation. Significant scientific limitations exist for all approaches and must be considered in evaluating conclusions about health hazards.

A few of the major problems encountered in epidemiologic studies include:

1. Impurities of the chemicals studied
2. Multiple exposures of those being studied
3. Lack of true control groups
4. Variation in latency periods
5. Extremely long latency periods
6. Lack of exposure data
7. Lack of reliability in death certificate cause of death
8. Variations in length of follow-up of study populations
9. Changing job categories and duties
10. Problems in assessing "healthy worker effect"

Worker health surveillance:

Great efforts have been made to protect petrochemical workers from health hazards and comprehensive worker health surveillance programs have been developed by some companies. Great improvements in working conditions have resulted. Most petrochemical companies routinely sample the environment to establish worker exposure levels to various chemicals. Programs of periodic health examination have been established and medical records are being computerized to allow for epidemiologic studies to be related to exposure levels. Employees are provided with educational material and courses about health risks related to chemical exposures.

Several problems, however, still exist with even the most advanced surveillance programs. Exposure levels are monitored for a small number of "indicator" chemicals. Fugitive leak exposures, which are very difficult to monitor and to detect, are less well controlled and are rarely recorded. Unfortunately, periodic medical examinations are, for the most part, not effective in identifying cancer at a stage early enough to prevent or cure it. Therefore, prevention is only possible through continued technologic improvements to lower or elim-

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inate exposures. Presently, access to medical charts and toxicologic data by individuals, unions and regulatory agencies is very restricted. Finally, many part-time workers and contractors are not eligible for inclusion into industry's health surveillance programs.

Fugitive emissions - exposure:

Evaluation of health hazards of the petrochemical industry cannot be confined only to those products initially proposed in Phases I and II (See Appendix D). Although these are the specific chemicals which will be the major products, fugitive emissions can be expected to contain virtually hundreds of various chemical by-products and intermediates, albeit in much smaller amounts. Fugitive emissions, while only a fraction of the total plant product output, can be expected to be substantial. Even state-of-the-art technology cannot eliminate fugitive emissions as evident by recent difficulties in the ethylene plant completed in 1979 in Red Deer, Alberta, Canada. In addition, the proposed lists are not inclusive and virtually any petrochemical could be produced from these basic feedstocks if market conditions proved advantageous. Of special concern is the potential for future production of petrochemicals of unusual toxicity and hazard which legally can be produced in Alaska for export to other countries. Finally, tertiary industry could well appear to produce numerous other chemicals in the furture.

Exposure standards:

National agencies, particularly National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), American Conference of Governmental Industrial Hygienists (ACGIH), and American National Standards Institute (ANSI), have developed exposure standards for many chemicals. These guidelines are comprehensive and often include "time-weighted-averages" (TWA) in addition to "threshold-limit-values" (TLV). There is no question but that exposure levels in modern plants are much less than exposure levels in plants operating 20-40 years ago. Improvements in technology, discoveries of adverse health effects, response by the industry, and government regulations have resulted in steady lowering of exposure levels. Little or no data presently exist which prove that chronic ill health effects have occurred at present exposure levels. However, although exposure levels have declined, serious and substantial questions exist over the present adequacy of many current standards. NIOSH, OSHA, and ACGIH have all recently proposed the lowering of exposure limits to various petrochemicals such as benzene, ethylene dichloride, and ethylene oxide. Many companies have set limits of their own even below required government limits although these data are often not made available to government agencies. With the tremendous increse in production of petrochemicals (from one billion lbs/year in 1940 to more than 300 billion lbs/year in 1976), the lowest possible exposures would seem to be essential to prevent large increases in adverse health effects in the future.

In order to evaluate properly health risks related to the proposed product slate in Phases I and II, additional data will be essential. These data include information on specific processes, chemical intermediates and by-products, material balance sheets including yields, and toxicologic data for all chemicals. Independent evaluations of basic chemical processes list several proposed for Alaska as having a high potential for risk, including "Dehydrogenation of Acyclic Products" and "Halogenation of Acyclic Products".

Community health impact:

Additional health problems, although better understood and more manageable, include burns and acute chemical exposures which require excellent emergency care and long term medical support. Alaskan facilities, particularly burn intensive care units, may require substantial upgrading to meet these demands. Acute chemical exposures requires specialized knowledge and expertise. The industry has the capability to provide education and scientific resources to the medical communities if the project proceeds.

RECOMMENDATIONS AND CONCLUSIONS

1. Limited expertise currently exists within the State of Alaska to assess health hazards and risks related to the petrochemical industry. Little specific data on processes and exposures has been available for review. On-going study and evaluation is mandatory.
2. Definite answers will not be available to ease the challenge of decision making. Serious chronic health hazards have occurred and can be expected to occur in the future. Limited knowledge raises the clear possibility that health risks, in addition to affecting workers, may extend to populations living in proximity to petrochemical plants. Some of the major concerns related to health hazards would be allayed if the site proves to be distant from the major population centers.
3. Exposure to chemicals must be controlled at lowest levels reasonably achievable. For several of the chemicals under consideration, scientific bodies recommended exposure levels below those currently in place, (benzene, ethylene dichloride, ethylene oxide). Alaska should consider imposing these lower levels for this new plant with state-of-the-art technology.
4. Monitoring requirements should apply to ambient air as well as point sources and should include continuous monitoring with visible read-out and recording.
5. All exposure and medical records should be available to workers and to appropriate state agencies.

6. OSHA is the key agency to monitor compliance and to insure worker and general population safety. Present staff levels and funding levels are very inadequate and must be increased substantially.
7. Clear understanding must be achieved on company responsibility for exposures, worker health surveillance, and record keeping, as nine companies are involved and distinctions and responsibilities easily could be blurred.
8. An increase in state budget and personnel is mandatory to provide adequate expertise for surveillance, monitoring and enforcement in Department of Health Social Services, Department of Environmental Conservation, Department of Labor, and Department of Law.
9. The State should require from the petrochemical industry:
    a. Data on physical, chemical and toxicological properties of chemical agents.
    b. Data on the reactions of chemicals and their products and on the environmental fate of materials resulting from manufacturing processes an distribution of products.
    c. Industrial hygiene measurements of the occupational environment and measurement of agents in areas immediately surrounding production and storage facilities.
    d. Employee health records for mortality and morbidity studies and their correlation with environmental exposure experience.
10. Additional assessment of petrochemical hazards to human reproduction including sterility, infertility, miscarriage, and congenital malformation is needed.

APPENDIX D

DESIGN CAPACITY AND CAPITAL ESTIMATES FOR PRODUCTS IN FEASIBILITY STUDY

Phase I

Product and Study Company	Million Lbs/Year
Ethylene (Dow)	1,500
Polyethylene (Dow)	400
Ethylbenzene (Dow)[1]	1,870
Polyethylene (Mitsubishi)	180
Ethylene Glycol (Shell)	800
Ammonia (Mitsubishi)	950
Urea (Mitsubishi)	1,280
Benzene (MAPCO ALASKA)[1]	1,400
Methanol (Alaska Interior Resources)	3,630
STYROFOAM* (Dow)	not available

Phase II

Ethylene (Shell)	1,500
Ethylene Glycol (Dow)	750
Polyethylene (Dow)	200
Alpha Olefins (Shell)	550
Ethylene Dichloride (Shell/Mitsubishi)	700
Caustic Soda Solution (Mitsubishi/Shell)	1,150

[1] Will not operate at design capacity in Phase I, but will in Phase II

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If you have an occurrence policy, coverages and premiums are locked in for any policy year you are insured. Given a similar premium for occurrence policies this may represent a price advantage over claims made policies, but you may not be getting the benefits you need in the future provided under claims made coverages.

Should you terminate a claims made policy "tail coverages" are needed in order to give you protection for claims which may be brought against you later on. Is there a guarantee on your claims made policy for no time restrictions? When pricing claims made coverages, don't be mislead by the lower going in first year rate. The real cost of your coverage when adding tail coverages is closer to 10% to 20% over the mature premium rate (generally shown as the fifth year rate) for each year you were insured. Ask how your "tail coverages" are computed. In the event of disability, death or retirement, does your policy provide "tail coverages" without any additional outlay of premium?

Additional coverages not often included with many policies could create difficulties. For example, should a claim be brought against one of your employees or a physician filling in for you, are they covered?

How well is your policy serviced? Professional liability insurance is very personal and needs tailoring for varying practice situations. Is your insurance company's philosophy consistent with yours? What happens in the event of a claim? Although most professional policies require the consent of the physician to settle, will the insurance company stand behind you in the event of a nuisance claim or should a possible plaintiff recovery appear to exceed your limits of coverage? Does the insurance company utilize all potential resources; experienced defense counsels, knowledgeable claims staff and physician input in resolving claims?

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DELEGATE'S REPORT ON THE 1981 ANNUAL MEETING OF THE AMA HOUSE OF DELEGATES

The Annual Meeting of the American Medical Association House of Delegates was held at the Chicago Marriott Hotel June 7-11, 1981.

The Alaska State Medical Association was represented by its delegate, alternate delegate, Dr. Douglas Smith and the executive secretary, Ms. Martha MacDermaid.

Two hundred eight-three delegates were seated, making this the largest house in the history of the AMA.

Probably the most important action occurred on a report of the Board of Trustee which called for a reorganization of the AMA structure and staff plus a $35 dues increase. Most of the proposals were approved, several were not -- notably the Council on Constitution and By-Laws remains in effect. The dues for 1982 will be $285 for regular members. Young physicians in the first year of practice will pay 50% and physicians in the second year of practice will pay 75% of regular dues. Military physicians will pay two-thirds of regular dues.

The By-Laws were changed to allow a direct AMA membership option. Any direct member -- not belonging to a State society -- will still count toward determining the number of delegates from each state society. The AMA will encourage all members to be members of their state and local societies. Each state society will review applications for direct membership before the processing is completed. The Board of Trustees must submit a full review and reappraisal of the direct membership program after three years.

The new functional profile for the AMA is to:

1. Represent the Medical profession
2. Provide information, both scientific and socio-economic
3. Establish and maintain standards of conduct and performance and
4. Share with other organizations the maintenance and implementation of educational standards.

The house adopted a comprehensive report of the National Health Insurance proposals now under consideration by the Congress. The report expresses serious concerns with the bills and how the proposals would affect the way medicine will be practiced in the future. The advocates of competition assume that patients are preoccupied with price, an asssumption not demonstrated. The House position is that accessibility, reliability and quality are as important if not more important than price.

In other actions, the House voted to:

1. Request a Board re-evaluation of Association policies on Health Manpower and their relevance to current developments in physician supply, roles of allied health professions, medical education, and the health services market.
2. Support the elimination of government funds for new start-ups of health maintenance organizations and for the termination of funds for other HMO's after completion of the current funding cycle.
3. Endorse the concept of equal rights for men and women, but not the Equal Rights Amendment.
4. Recommend to hospital staffs that admission histories and physicals be performed only by physicians.
5. Urge the Food and Drug Administration to accelerate review of drugs on its "lacking evidence of effectiveness list."
6. Urge the Federal Aviation Agency to study medical emergencies on commercial planes and how they were treated with currently required medical kits.
7. Support a bill that would place a moratorium on the Federal Trade Commission's activities involving professionals.
8. Oppose state laws making a physicians licensure contingent upon providing services to medicaid beneficiaries or any other specified category of patients.
9. Have the AMA develop an educational program dealing with child molestation, incest, and exploitation of children.

The Alaska State Medical Association had two resolutions which we submitted for consideration this year. One was adopted in which we called for AMA support of repeal of an appropriateness review road block on certificates of need and other expenditures by hospitals which were already approved by the HSA's.

The second resolution concerned the Joint Commission on Accreditation of Hospitals (JCAH) and called on the AMA to request that the JCAH justify any standards for documentation of quality assurance by convincing evidence that such standards effectively raise the quality of care and effectively reduce the likelihood of personal injuries.

For some reason, though we spoke to the resolution in the Reference Committee hearings, the Reference Committee recommended to the House that the resolution not be adopted. As delegate I requested the California delegation to second my motion for referral to the Board of Trustees which our friends from California were quick and willing to do. Following my referral harangue on the floor of the House and the California's second, I was amazed and pleased when the new President of the AMA, Dr. Dan Cloud of Arizona, took the floor and spoke in favor of our resolution. House approval quickly followed. The point I think is that we can be and are heard.

This year's meeting was notable also in that there was considerably less waste of time and money on electioneering. This was mostly due however to the fact that Dr. Bill Rial of Pennsylvania was the sole candidate for the presidency. Dr. Rial has been an extremely able speaker of the House for a number of years. He and his lovely wife, whom we met at the ASMA meeting at Glacier Bay this year, stood before the House as Dr. Rial was made President-Elect by acclamation. The only objection expressed to Bill Rial becoming President-Elect was that we were losing the best Speaker that could be recalled in many years.

Dr. Dan Cloud's presidential reception was marked by good humor, excellent food and tremendous nostalgia for most of us, supplied by the Glenn Miller Band.

This delegate had now attended two Annual Meetings and one interim meeting. I am impressed with the diligence and democracy of the AMA House of Delegates. The youth of our profession are being served in the form of the representatives of the Student Medical Association and the Residents Association. They are wonderfully vocal and thoughtful. The age of the regular delegate is receding. From our stand point in Alaska it is apparent that we are but a hair on the tail of a very large dog, yet we are heard and action can be swayed, even initiated.

We should all take part in our local constituent and state society and help instruct our delegate as to our needs and desires.

Richard L. Witt, M.D.
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in acute otitis media in children... effective against both major otic pathogens...with *b.i.d.* convenience

in acute exacerbations of chronic bronchitis in adults... clears the sputum and lowers its volume...on *b.i.d.* dosage

in shigellosis... faster relief of diarrhea than with ampicillin[2]

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Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General.* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children. Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment. Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100, Prescription Paks of 20 and 28. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry-flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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1. Rubin RH, Swartz MN: *N Engl J Med 303*:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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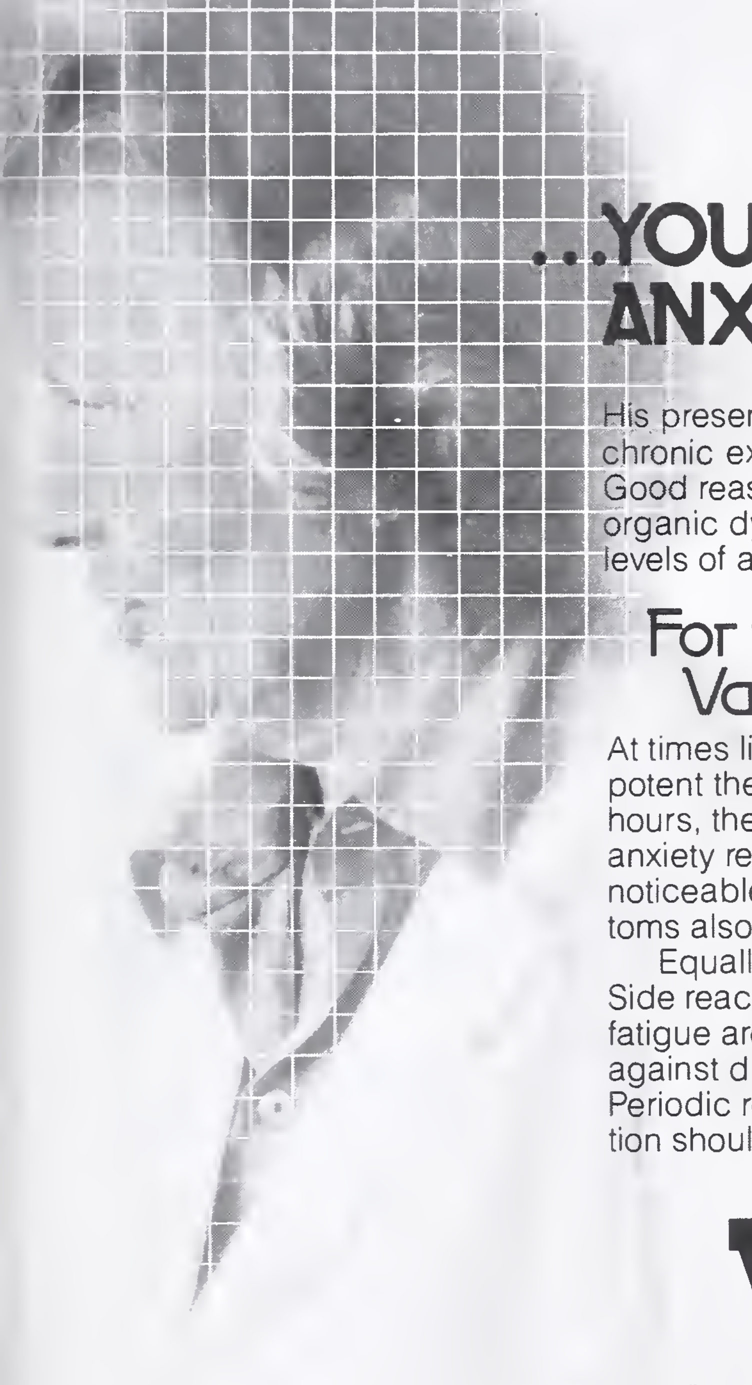
ALASKA MEDICINE

Volume 23, Number 6

November/December 1981

THE PATIENT THINKS HE HAS HEART TROUBLE...



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His presenting symptoms: palpitations, chest pain, chronic exhaustion and occasional difficulties in breathing. Good reason for concern. A complete workup uncovers no organic dysfunction, but it *does* reveal excessively high levels of anxiety and apprehension.

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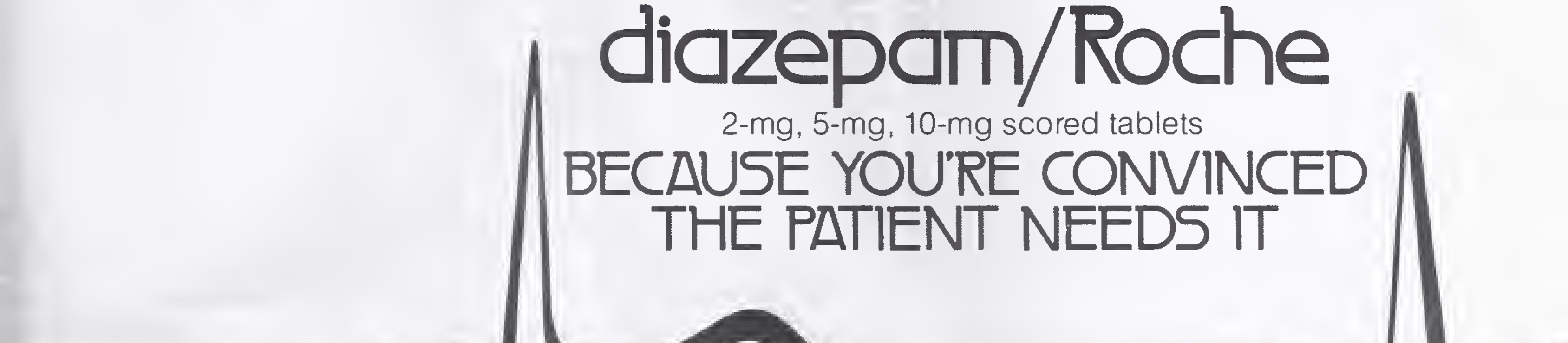

ROCHE®

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies The physician should periodically reassess the usefulness of the drug for the individual patient

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy

Warnings: Not of value in psychotic patients Caution against hazardous occupations requiring complete mental alertness When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months After extended therapy, gradually taper dosage Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b i d to q i d ; alcoholism, 10 mg t i d. or q i.d. in first 24 hours, then 5 mg t i d or q i d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t i d or q i d , adjunctively in convulsive disorders, 2 to 10 mg b i d. to q i.d. *Geriatric or debilitated patients* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions) *Children.* 1 to 2½ mg t.i.d. or q i d. initially, increasing as needed and tolerated (not for use under 6 months).

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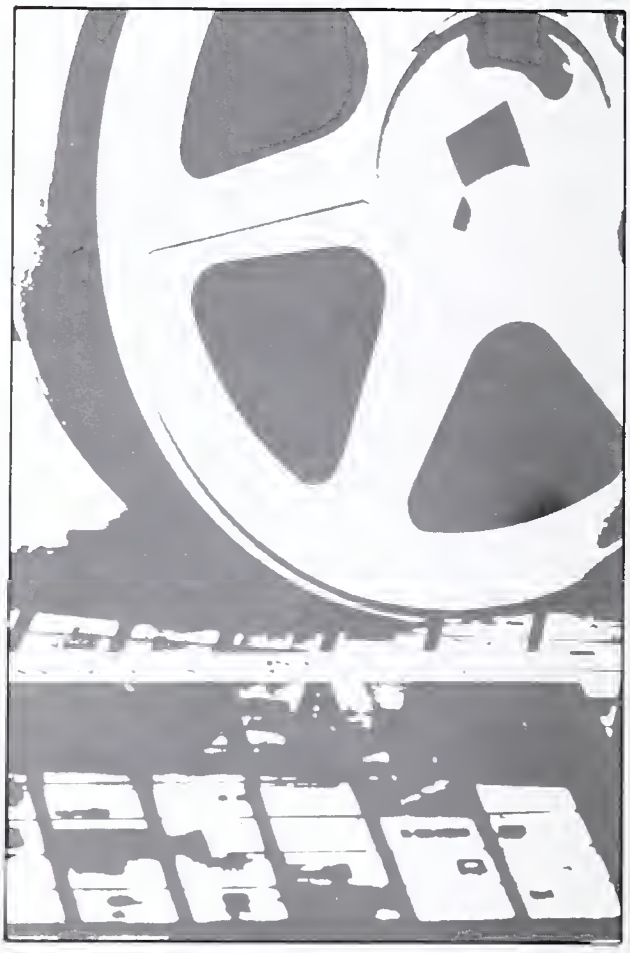

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ALASKA MEDICINE

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NATIVE MEDICINE IN SOUTHEAST ALASKA

TSIMSHIAN, TLINGIT, HAIDA

Marianne McGregor

Native Indians of Southeast Alaska -- Tsimshian, Tlingit, Haida -- for years relied upon extracts of plants and animals for their medicines. In recent times, western medicine has supplanted the native customs and few use the traditional medicines today. However, some of the traditional medicines are known by older members of the community. This paper presents the more commonly used herbs, animal extracts and health customs.

I found this information mainly through conversations with older people in the community -- several Tsimshians and one Tlingit. These older people, who watched their parents, aunts and uncles use traditional medicine, hold the last remnants of this knowledge. This project is thus timely because most of the generation familiar with the customs are dead. For this reason, a number of other people in S.E. Alaska are working to record and preserve the native Indian medicine and health customs.

In my research I found very few written records of this area's native medicine. In addition, the Indians who spoke to me pointed out gaps in their knowledge of traditional remedies. I thus supplemented their information by reading about use of the same herbs in other cultures. Where pertinent, I have included discoveries of recent scientific research which bear upon native customs.

Native health customs: In times past, the native medicine was transmitted from generation to generation on two levels. On one level, a gifted 'healer' would teach all or part of the knowledge to a younger member of the community, one who displayed a natural gift for healing. The knowledge was not systematically passed on, however, as it was felt that a healer gained most of the healing ability through his or her own efforts and innate talents.(3) On another level, it appears that many herbal and dietary remedies were part of the 'common sense' or common knowledge of the community and were passed from parents to children.

Following are health customs and remedies from childbirth through pediatrics through adult medicine:

Childbirth: Tsimshian labor and delivery was most often a solitary process. When her time came, the woman gathered whatever materials she required and went off into the woods by herself. She dug a hole in the ground, layered it with skunk cabbage leaves and shredded alder bark. In a squatting position, with the aid of gravity, she delivered her baby into this 'bed' and subsequently also the afterbirth. Although pain medicine was known, none was used in childbirth.(1)

The mother then returned with her newborn to the village where she was greeted by female relatives. She recuperated in the following manner: a hole was dug in the ground and lined with skunk cabbage and alder bark. She laid in this bed, over the top of which was added rocks, creating, in effect, a sauna. She was given only clam juice, Hudson Bay Tea, alder bark tea or other liquids during this period of cleansing. To clear the system of blood clots, boiled black seaweed was taken.(2) After 10 days the mother returned to normal activities in the village.

Occasionally there was in the community a midwife who not only assisted with the birth but who also provided some prenatal care. For example, Mrs. Burton (a Tsimshian midwife who had assisted in the delivery of some of the older folks) when necessary applied external pressure to turn the baby into a better position for delivery.(1)

Midwives also assisted at the births of Tlingit women. They too then entered a ten day isolation period, living in a small hut built especially for that purpose.(5) This period of isolation and cleansing no doubt helped to reduce the incidence of postpartum infection.

School of Medicine, University of Washington

Pediatrics: Though many of the methods which I will describe in adult medicine undoubtedly were used with children, there were some practices applied specifically to children.

Among the Tlingit, the newborn was immediately bathed in cold fresh water. Then through pressure on the stomach the baby was induced to vomit since the stomach contents of the newborn were considered poisonous and a source of future illness if not expelled. The baby was then allowed to breastfeed, which was continued for 10 to 30 months.(5)

Among both the Tlingit and Tsimshian, children were bathed daily in the sea: the former from the time a child could walk, the latter from age six.

Ear infections, a common problem among some Alaskan children, were treated with local application of warm ooligan oil. This oil from the candlefish was prepared in the following manner. The fish were caught in April as they swam upstream in the larger rivers of British Columbia. They were aged for a few days and then boiled. Oil floated to the top and was skimmed off. Enough oil was made for the entire year.(1)

Among Tlingits, giant kelp was used to treat earaches. They placed one end of the hollow stalk on a hot wet stone and the other end in the ear, allowing steam to enter the ear.(6) Marine biologists at USC have found bactericidal qualities in several species of tropical marine algae and suggest that "production of antibiotics may be widespread in marine algae".(8)

ADULT MEDICINE

Respiratory diseases: A number of herbs were used for this category of disease. The most powerful of these was Devil's Club (see note 1 below) used extensively by all three tribes for colds, pneumonia and other internal infections. Gathered at any time of year, the inner bark of the plant was steeped in water and taken internally. It was said to be so powerful that reversal of the disease process came in cases within ½ hour. One could also chew on the inner bark to cure a cold. Roots of the Devil's Club were sometimes used and believed to be even stronger.(2,3,4)

Ooligan oil was used also for respiratory illnesses. This multipurpose remedy was taken internally for cough, cold and congestion. Taken in a dose of ½ cup per day, it was felt to be very effective in curing tuberculosis. (1,2) Other agents described by Ketchikan residents were hot clam nectar or Hudson Bay tea for colds and skookum root (hellebore) for sinus infections. The powder was snuffed to induce sneezing and jar loose mucus plugs.(6)

A European observer, Aurel Krause, in the 19th century reported several other remedies in use among the Tlingits.(6) These were not described by current sources. (see note 2 below)

spleenwort (Asplenium): effusion taken for chest inflammation due to catarrh
gold thread (Coptis macrosepala), Cornicularia Richardsonii: effusion for inflammation, lungs
sweet cicely (Osmorhyza brevistyla): warm effusion for cough
wormwood (Artemisia vulgaris), crabapple (Pyrus sambucifolius): effusion of either used internally or externally for pleurisy

Gastrointestinal diseases: Tsimshian residents of Ketchikan describe the following remedies (1,2):

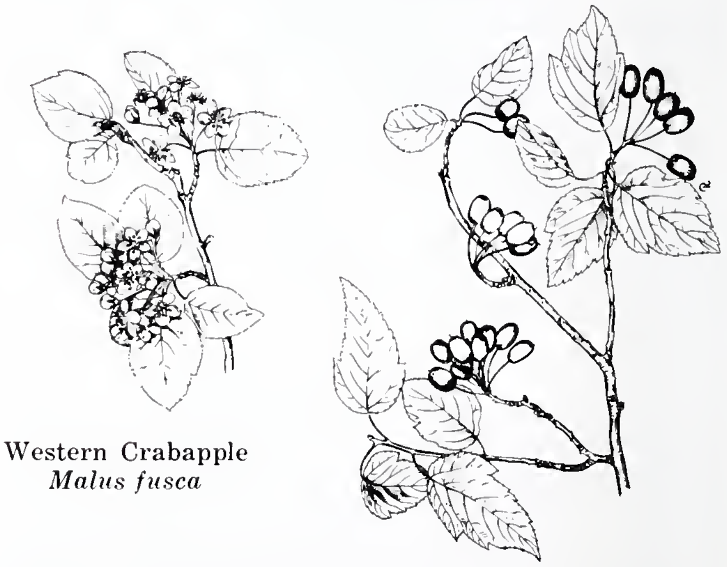
blueberry: diarrhea
Devil's Club, tips of young spruce boughs or ooligan oil: constipation
bearberries or alder bark tea: ulcers
seal broth: pinworms
ooligan oil, dried black seaweed or tips of young spruce boughs: nausea

Krause in 1885 (6) observed treatment of diarrhea with fresh juice of Pinus canadensis mixed with tallow of mountain goat. Colic was treated with extract of roots of locoweed (see note 3 below).

Cardiovascular diseases: Little is described with respect to cardiovascular disease. Hudson Bay Tea is prescribed for high blood pressure. It is said also to purify the blood. Black seaweed was believed to cleanse one of blood clots. Indeed, Scottish doctors have reported that brown and red seaweeds produce an anticoagulant comparable to heparin.(14)

Aurel Krause noted treatment of "blood diseases" with effusion of the root of Spiraea Aruncus.(6)

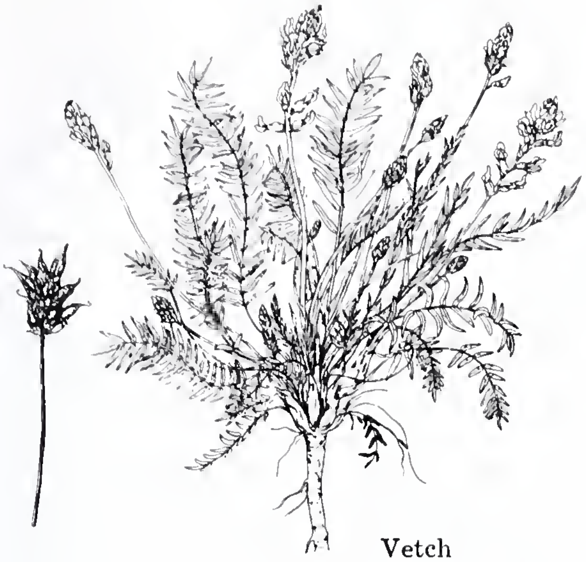
Sea cucumbers, which used to be eaten extensively by the Indians, contain a substance called holothurin


Western Crabapple
Malus fusca

Note 1: Devil's Club (Oplopanax horridum of the family Araliaceae) was used medicinally also by Indians in western Washington. I was unable to find research on Devil's Club itself. However, several drugs have been isloated from other members of Araliaceae and are used in China and the USSR.(12)

Note 2: Some botanical names in use at the time of this record (1885) are obsolete. Research is needed to establish current names.

Note 3: Several species of locoweed (Oxytropis) are poisonous, causing loco disease in animals and leading to death by asphyxia. Species in Alaska are not known to be poisonous, but should be eaten with caution.(7)



Vetch
Astragalus, Oxytropis

which has both digitalis-like and cancericidal properties. Medicinal use of the sea cucumber was not described by the Indians. Apparently experiments have determined that holothurin is inactivated by oral ingestion.(9,10)

Oncology: Tsimsians believe that many of their medicines will cure cancer. One anecdote tells of a woman of recent times, diagnosed to have stomach cancer when she was in her 60's who lived to 92 and apparently died of other causes. Her remedy was Devil's Club.(1) In another case reported by a physician practicing at the time in Sitka, an Indian man diagnosed to have terminal cancer with extensive pulmonary involvement was sent home to die. Several months later, after daily intake of Devil's Club, doctors were surprised to find him still alive. On re-examination he was found free of lung cancer.(13)

Labrador Tea
Ledum palustre

The Indians do not describe other remedies specific for cancer. However, recent scientific studies have found cancericidal properties in some of their food products. For instance, one species of seaweed (Codium fragile) studied at the University of Rhode Island has yielded a substance which acts against certain types of leukemic cells.(16) Also, an environmental cause of cancer, Strontium 90 (present in the atmosphere since the 1950's atom bomb tests), can be removed from the digestive system by a component of kelp, sodium alginate.(16)

Rheumatology: Arthritis was treated by drinking an effusion of Devil's Club or by eating bearberries. In another remedy, of more recent invention, an external application of egg white and turpentine was wrapped with skunk cabbage leaves and a hot towel. Medicinal effect was believed to result from the egg white and turpentine mixture not from the skunk cabbage. (See note 4 below) Leaves of skookum root (hellebore) were also used for arthritis. However, the method of application, whether internal or external, was not described.

False Hellebore
Veratrum eschscholtzii

Dermatology: Tsimshians today describe use of skookum root for diseases of the scalp such as ringworm and dandruff. It reportedly allows hair to grow back in cases of alopecia.(1,2) Warmed hemlock pitch in ooligan oil with a dressing over it has been noted to

---

Note 4: Skunk cabbage leaves were used extensively by Tsimshians and Tlingits as liners for baskets, 'ovens', sickbed or cradle and as a wrap for poultice of medicinal herbs. It was not believed to have medicinal properties. In other cultures skunk cabbage roots and seeds were taken internally for a variety of ailments. They were also applied externally as an ointment for sores and tumors.(11)

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cure a refractory case of eczema in one week. Deer tallow was used to relieve eczema and itching.

Formerly Tlingits washed skin eruptions in effusion of American laurel (Kalmia glauca).(6)

Psychiatry: Tsimshians describe a cure for insanity. The patient's head is shaved and skookum root applied (see note 5 below). The medicine is introduced into the bloodstream by gently hitting the head with a spruce bough until blood is drawn. Application of Devil's Club in a similar manner is said to be effective as well.(1,2) The Haida used skookum root for a tranquilizer and painkiller.(4)

In 1885 Ensign Niblack, U.S.N., who made observations on the North Pacific Coastal Natives, reported that Tlingits considered valerian root an original source of the commonly prescribed drug Valium, one of their most potent medicines. However, he did not report specific indications for the drug.(5)

Ophthalmology: To improve vision, Devil's Club was taken internally. In one case of blindness, it is said that Devil's Club and pitch, applied externally, restored a man's vision.(1,2)

Dentistry: For toothache, Tlingits applied warmed seeds of Pinus Mertensiana and Sitchensis.(6)

Emergency medicine: Ooligan oil was used by Tsimshians for external application to injuries and abscesses. They note particularly its use among fisherman. Interestingly, it is applied today to cannery workers for treating wounds from fish and fish hooks.(1) Alder bark tea was also used for cuts and nosebleeds. Seaweed, especially the black seaweed and even the yellow seaweed, was placed on cuts. Burns were treated by application of the thin black skin of boiled gumboots (chiton or mussel).(1,2)

Applications of bird's down to hemorrhages was observed by Ensign Niblack.

Various infections:

venereal disease: Devil's Club (1,2), mixture of sprouts and bark of Pinus inops, Ledum palustre (Hudson Bay Tea), thuja excelsa (cedar) taken internally and external application of resin of Pinus Mertensiana and Sitchensis mixed with leaves of Claytonia alsinoides and bark of cypress (Taxodium sempervirens) (6)

testicular inflammation: Heuchera olivaricata (alum root) (6)

malaise: bearberries (1,2) (See note 6 below)

sores: heated hemlock pitch applied to abscess to bring it to a head and drain it, Ooligan oil used in a similar fashion. Tea of inner bark of alder was taken internally and applied externally (1,2). Marchantia with shark oil, Nardosmia palmata (coltsfoot) and root of Boschniakia glabra and ash of Devil's Club (6)

Preventive medicine: Tsimshians point to the benefits of their traditional lifestyle in preventing the modern diseases of stress such as some cancers, hypertension and heart disease. In their traditional customs, one worked for six months gathering food, etc.; then one played for six months, feasting, socializing. In this way, they say, stress was not allowed to accumulate in the body.

Other preventive practices described included consumption of dogfish liver oil (rich in vitamin D), ooligan oil (consumed daily for its vitamin content), sprouting greens and berries high in vitamin C such as salmonberry sprouts and soapberries and seaweed for it iodine. Digestion was maintained with intake of wild rhubarb which in quantities normally consumed has a laxative effect. Though polio was not likely a problem for the Indians until exposure to Caucasians, experiments at NIH by Dr. C. P. Li isolated an agent in abalone and oysters which inhibits the virus.(14)

Another common health practice was to drink seawater. This was thought to purify the body. In light of bactericidal properties of many algae (8) this custom may have helped to prevent various infections.

Summary

Several native medicines and health customs of the Tsimshian, Tlingit and Haida tribes of Southeastern Alaska have been described. Based mostly on personal recollection of older Indians, the record is far from complete. In particular, this description lacks details of collection of the herbs and also the specific details of therapeutics. Perhaps this paper will stimulate continuing efforts to preserve the native medicine of Southeast Alaska.

Appendix

A. Preparation of Devils's Club Medicine: (4)

1. Cut few sticks 5 to 6' long. Cut into 18" lengths.
2. Scrape off thorns and outer grey bark. Peel off inner green bark.
3. Put 2 handfuls of green inner bark in pot. Cover with 2 gallons cold water. Boil, then simmer 3 hours.
4. To enrich, add 3 different sprouting trees about 8" long: spruce, cedar, hemlock. Put in pot, roots and all.
5. May add alder bark for color and taste.

Dose: 1 cup three times per day.

B. Preparation of Skookum Root Medicine: (4)

1. Dig up bulbous root and cut off to 3".
2. Dry on top of stove.
3. Cover with water and simmer 1 hour.

Note 5: Hellebore (Veratrum viride) was used widely in medicine both in Europe and the United States probably from medieval times. The plant has three groups of alkaloids having hypotensive, cardiac depressant and sedative properties. It has been used in the treatment of hypertension and was used for many years by American doctors as a cardiac depressant (USP 1820-1942, NF 1942-60).(12)

Note 6: SE Indians note only the use of berries of Arcostaphylos. Other cultures used the leaves both in folk medicine and in modern medicine as the derivative (USP 1820-1936, NF 1936-50). Used as diuretic and astringent.(11)

Dose: 1 teaspoon in glass of water. Effects felt almost immediately.

Or, after drying, grind into powder to be used for snuffing.

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Before prescribing, see complete prescribing information in SK&F Co. literature or *PDR*. The following is a brief summary.

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Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids) Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency Watch for signs of impending coma in severe liver disease If spironolactone is used concomitantly determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+ Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly Antihypertensive effects may be enhanced in post-sympathectomy patients Use cautiously in surgical patients. The following may occur transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods Corrective measures should be instituted cautiously and serum potassium levels determined Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium Chloride deficit may occur as well as dilutional hyponatremia Serum PBI levels may decrease without signs of thyroid disturbance Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone Triamterene has been found in renal stones in association with other usual calculus components Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established

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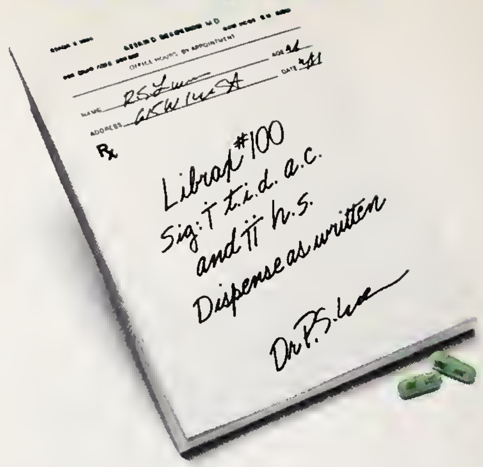

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e g, operating machinery, driving) Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug

> ***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated) Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines Observe usual precautions in presence of impaired renal or hepatic function Paradoxical reactions reported in psychiatric patients Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges Syncope reported in a few instances Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy Adverse effects reported with Librax typical of anticholinergic agents, *i e*, dryness of mouth, blurring of vision, urinary hesitancy, constipation Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets

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References: 1. Sullivan MA, Cohen S, Snape WJ: *N Engl J Med 298*:878-883, Apr 20, 1978 **2.** Snape WJ et al: *Gastroenterology 72*: 383-387, Mar 1977.

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BRIEF SUMMARY

INDICATIONS AND USAGE

For the prevention and treatment of nocturnal recumbency leg muscle cramps

CONTRAINDICATIONS

Quinamm may cause fetal harm when administered to a pregnant woman Congenital malformations in the human have been reported with the use of quinine, primarily with large doses (up to 30 g) for attempted abortion In about half of these reports the malformation was deafness related to auditory nerve hypoplasia Among the other abnormalities reported were limb anomalies, visceral defects, and visual changes In animal tests, teratogenic effects were found in rabbits and guinea pigs and were absent in mice, rats, dogs, and monkeys Quinamm is contraindicated in women who are or may become pregnant If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus

Because of the quinine content, Quinamm is contraindicated in patients with known quinine hypersensitivity and in patients with glucose-6-phosphate dehydrogenase (G-6-PD) deficiency

Since thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients, a history of this occurrence associated with previous quinine ingestion contraindicates its further use Recovery usually occurs following withdrawal of the medication and appropriate therapy

This drug should not be used in patients with tinnitus or optic neuritis or in patients with a history of blackwater fever

WARNINGS

Repeated doses or overdosage of quinine in some individuals may precipitate a cluster of symptoms referred to as cinchonism Such symptoms, in the mildest form, include ringing in the ears, headache, nausea, and slightly disturbed vision, however, when medication is continued or after large single doses, symptoms also involve the gastrointestinal tract, the nervous and cardiovascular systems, and the skin

Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine Quinamm should be stopped immediately if evidence of hemolysis appears

If symptoms occur, drug should be discontinued and supportive measures instituted In case of overdosage, see OVERDOSAGE section of prescribing information

PRECAUTIONS

General

Quinamm should be discontinued if there is any evidence of hypersensitivity (See CONTRAINDICATIONS) Cutaneous flushing, pruritus, skin rashes, fever, gastric distress, dyspnea, ringing in the ears, and visual impairment are the usual expressions of hypersensitivity, particularly if only small doses of quinine have been taken Extreme flushing of the skin accompanied by intense, generalized pruritus is the most common form Hemoglobinuria and asthma from quinine are rare types of idiosyncrasy

In patients with atrial fibrillation, the administration of quinine requires the same precautions as those for quinidine (See Drug Interactions)

Drug Interactions

Increased plasma levels of digoxin and digitoxin have been demonstrated in individuals after concomitant quinidine administration Because of possible similar effects from use of quinine, it is recommended that plasma levels for digoxin and digitoxin be determined for those individuals taking these drugs and Quinamm concomitantly

Concurrent use of aluminum-containing antacids may delay or decrease absorption of quinine

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants

The effects of neuromuscular blocking agents (particularly pancuronium, succinylcholine, and tubocurarine) may be potentiated with quinine, and result in respiratory difficulties

Urinary alkalizers (such as acetazolamide and sodium bicarbonate) may increase quinine blood levels with potential for toxicity

Drug Laboratory Interactions

Quinine may produce an elevated value for urinary 17-ketogenic steroids when the Zimmerman method is used

Carcinogenesis, Mutagenesis, Impairment of Fertility

A study of quinine sulfate administered in drinking water (0 1%) to rats for periods up to 20 months showed no evidence of neoplastic changes

Mutation studies of quinine (dihydrochloride) in male and female mice gave negative results by the micronucleus test Intraperitoneal injections (0 5 mM kg) were given twice, 24 hours apart Direct *Salmonella typhimurium* tests were negative, when mammalian liver homogenate was added, positive results were found

No information relating to the effect of quinine upon fertility in animal or in man has been found

Pregnancy

Category X See CONTRAINDICATIONS

Nonteratogenic Effects

Because quinine crosses the placenta in humans, the potential for fetal effects is present Stillbirths in mothers taking quinine have been reported in which no obvious cause for the fetal deaths was shown Quinine in toxic amounts has been associated with abortion Whether this action is always due to direct effect on the uterus is questionable

Nursing Mothers

Caution should be exercised when Quinamm is given to nursing women because quinine is excreted in breast milk (in small amounts)

ADVERSE REACTIONS

The following adverse reactions have been reported with Quinamm in therapeutic or excessive dosage (Individual or multiple symptoms may represent cinchonism or hypersensitivity)

Hematologic acute hemolysis, thrombocytopenic purpura agranulocytosis, hypoprothrombinemia

CNS visual disturbances, including blurred vision with scotomata photophobia, diplopia, diminished visual fields, and disturbed color vision, tinnitus, deafness, and vertigo, headache, nausea, vomiting fever, apprehension, restlessness, confusion and syncope

Dermatologic allergic cutaneous rashes (urticarial the most frequent type of allergic reaction, papular, or scarlatinal), pruritus, flushing of the skin, sweating occasional edema of the face

Respiratory asthmatic symptoms

Cardiovascular anginal symptoms

Gastrointestinal nausea and vomiting (may be CNS-related) epigastric pain

DRUG ABUSE AND DEPENDENCE

Tolerance, abuse, or dependence with Quinamm has not been reported

OVERDOSAGE

See prescribing information for a discussion on symptoms and treatment of overdose

DOSAGE AND ADMINISTRATION

1 tablet upon retiring If needed 2 tablets may be taken nightly—1 following the evening meal and 1 upon retiring

After several consecutive nights in which recumbency leg cramps do not occur, Quinamm may be discontinued in order to determine whether continued therapy is needed

Product Information as of October, 1980

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SEROGROUP A MENINGOCOCCAL MENINGITIS IN ALASKA

John P. Middaugh, M.D.

During 1976 and 1977, 32 cases of Group A meningococcal meningitis occurred in Alaska after 20 years with none reported. This outbreak coincided with outbreaks of group A meningococcal disease in the 'skid road' communitites of Seattle, Washington and Portland, Oregon. Alaskan adult 'skid road' Natives with a history of heavy alcohol use had most of the early cases and had an estimated yearly attack rate of 1,250 per 100,000, 625 times the state average.

A limited Group A meningococcal vaccination campaign was directed at the alcoholic communities in Anchorage and Fairbanks but disease spread to other groups, particularly Native children. Control measures were hampered by difficulty in defining and reaching the high risk population. Since December 1977, only two cases of Group A meningococcal disease are known to have occurred in Alaska.

Introduction

Meningococcal disease is endemic in the United States, being reported at a rate of approximately 0.6 cases per 100,000 population per year and an approximate overall case fatality rate of 19%. (1,2) Since 1970 the vast majority of meningococcal disease cases have been caused by three serogroups, B 45%, C 32% and Y 18%. Serogroup A disease has accounted for less than 3.0% of all meningococcal disease in the United States. (2) In spite of the low incidence of serogroup A disease in recent years in the United States, its appearance has been a cause for considerable concern due to the widespread serogroup A epidemics which occurred in the United States in 1945, Brazil in 1974 and Finland in 1973.(3,5) In 1976, outbreaks of serogroup A meningococcal meningitis occurred in the Pacific Northwest. (6,11) This paper describes the outbreak and the control measures instituted in Alaska.

Methods

Meningococcal disease is reportable by law in Alaska. Cases were recorded over a Rapid Telephonic Reporting System or by direct telephone contact from physicians and from laboratories when the disease was diagnosed or suspected. A case was defined as an illness in a person from whom N. meningitidis was isolated from spinal fluid or blood and who had clinical features of meningitis.

Heavy alcohol use was defined as drinking daily plus frequent heavy binges. The estimated number of heavy alcohol users in Alaskan Natives and non-Natives was obtained from a comprehensive study analyzing the impact of alcohol and alcohol abuse in Alaska in 1975. (12,13) The number of 'skid road' Natives with a history of heavy alcohol use was obtained from this comprehensive study (12,13) and from estimates by public health nurses and alcohol detoxification program personnel based upon the census of established clients of these programs.

Organisms were serogrouped at the Section of Laboratories, Division of Public Health, State of Alaska, using N. meningitidis anti-serum obtained commercially from Difco Laboratories, Detroit, Michigan. All isolates were sent to the Centers for Disease Control for confirmation of serogrouping and for antibiotic sensitivity testing.

The term 'skid road' originated in Seattle in the nineteenth century. There was a hill too steep for wagons to carry lumber down to a sawmill. The logs were "skidded" down the hill. The area developed into a haven for alcoholics and drifters. The name became synonomous for a section of a city frequented by the poor, alcoholics, vagrants and derelicts.

Description of the Outbreak

While meningococcal meningitis is endemic in Alaska with an average reported yearly attack of 2.0

State Epidemiologist, Division of Public Health, Alaska Department of Health and Social Services, Anchorage, Alaska

cases per 100,000 population, prior to March, 1976, no cases of serogroup A meningococcal disease had been reported in Alaska for 20 years.

A total of 56 cases of meningococcal meningitis occurred in Alaska in 1976 and 1977. Of these 56 cases, 32 serogroup A cases were culture confirmed. Of the other 24 cases, 7 were caused by group B, 1 each by group C, group Y and group W-135. The remaining 14 were of unknown serogroup or were not serogrouped. (Figure 1)

From March to December 1976, 10 cases of serogroup A disease were identified: 8 of the first 10 cases occurred in adults who were heavy alcohol users; 2 of the cases were in children, aged 2 months and 2 years. Three of the initial cases who were heavy alcohol users had recently traveled to Seattle and had frequented the 'skid road' area. There continued to be a strong association between heavy consumption of alcohol and the occurrence of serogroup A cases in 1977. However, in 1977 an increasing number of serogroup A cases were identified in children less than 10 years of age. (Figure 1)

Of the 32 confirmed serogroup A cases, 23 were in Natives and 9 cases were in non-Natives. The age distribution ranged from 2 months to 76 years. Twenty-five case were in males; 7 cases were in females. Two deaths occurred, both in Natives who used alcohol heavily, aged 53 and 76 years. Cases were widely distributed geographically with the largest number of cases in Anchorage (10) and Fairbanks (4).

Of great interest was the identification of the large number of cases occurring in adult heavy alcohol users. (Table 1) Of the 16 serogroup A cases which occurred in known heavy alcohol users, 10 cases occurred in Natives identified as members of the Anchorage or Fairbanks 'skid road' communities. Attack rates were calculated using census data and estimates of the number of heavy alcohol users. (Table 2) No isolates tested were found to be resistant to sulfonamides.

Control Measures

The identification of a subgroup of high risk susceptibles of adult alcohol abusers (attack rate 25 cases per 100,000 population per year) and particularly adult 'skid road' Native heavy alcohol users (attack rate 1,250 cases per 100,000 population per year) led to a serogroup A meningococcal vaccination campaign limited to the alcohol 'skid road' communities, estimated to have a population of 400 in Anchorage in December 1976 and Fairbanks in February 1977. Public health nurses vaccinated all persons at the city detoxification centers and vaccine was administered in bars frequented by the high risk group. A record was kept of all 330 of 400 (83%) high risk persons vaccinated as patient recall as unreliable. No adverse side effects of vaccination were identified. At the time of the vaccination campaign, no data was available on vaccine efficacy in children less than six years of age and meningococcal vaccine was not generally approved for use in this group.

After the vaccination campaign, only one case of meningococcal meningitis was reported in the high risk group. It was a 30-year old Native male who had received serogroup A vaccine one year prior to the onset of his illness.

In addition to the vaccination program, a vigorous program was initiated in March 1976 by the Division of Public Health to see that contacts of all cases received antibiotic prophylaxis. Although all serogroup A isolates proved to be sulfonamide sensitive, this information was not immediately available and endemic cases caused by other serogroups continued to be identified. Therefore, rifampin was used for prophylaxis in accordance with recommendations by CDC. (14) During 1976 and 1977, only one secondary case occurred, a five-year old Native. A public health nurse diagnosed the case upon her arrival by airplane at a remote area where she was to administer antibiotic prophylaxis to family contacts of the index case.

Discussion

A limited outbreak of serogroup A meningococcal meningitis occurred in Alaska in 1976 and 1977. It is interesting that the initial cases occurred in heavy alcohol users. Some of whom had recently traveled to Alaska from Seattle where a similar outbreak was occurring in the 'skid road' population. The characteristics of the Alaska 'skid road' population are generally consistent with other urban 'skid road' areas. However, differences exist and in Alaska the skid road population has a higher prevalence of alcohol use, a greater segment of working men with a relatively regular income, a higher proportion of minorities (60% Native), a younger population (average age 26-35), and a greater proportion of females (18%). (14) Small errors in the estimate of the 'skid road' Alaska population would produce large differences in the rate of meningococcal meningitis in this subgroup. However, the 'skid road' population remained relatively identifiable during 1976-1977.

Following the introduction of disease in this adult population, there was spread to children less than 10 years of age including six cases occurring in children less than 3 years of age. The vaccination campaign was hampered by difficulties in defining and locating the high risk population of heavy alcohol users. Since December, 1977, only two cases of Group A meningococcal disease are known to have occurred in Alaska.

Table 1

Serogroup A Meningococcal Meningitis
Alaska 1976-1977

Relationship of Age, Race and Alcohol Use

	Native		Non-Native		
Age	Alcohol	No Alcohol	Alcohol	No Alcohol	Total
10	0	9	0	1	10
11-19	0	1	0	1	2
20	12	1	4	3	20
Total	12	11	4	5	32

Table 2

Serogroup A Meningococcal Meningitis
Alaska 1976-1977

Annual Attack Rates
(Cases per 100,000 population)

Population (Number of Cases)		Attack Rate
Natives	(23)	17
Non-Native	(9)	1.5
Native 10 years	(9)	23
Alcoholic Adults	(16)	25
Alcoholic Adult Native	(12)	83
'Skid road' Adults	(10)	1,250

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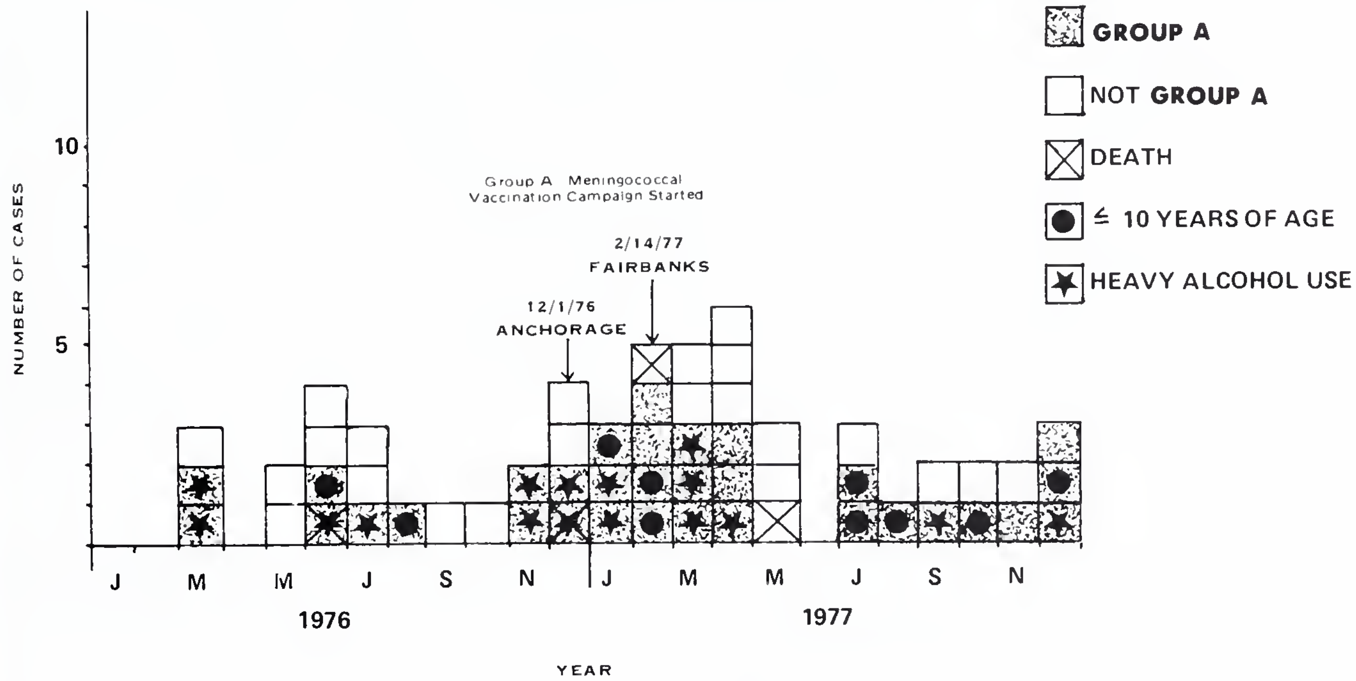
Figure 1 NEISSERIA MENINGITIDIS MENINGITIS
ALASKA 1976 - 1977



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Basic Facts

It is not unusual for a patient to make a claim several years after receiving treatment. It was for this reason that claims made coverages were designed. As the premium rates are tied directly to the anticipation when a claim is actually made, the policy language under any renewal policy year should track with the date a claim is brought and not restricted to the policy year of alleged occurrence, as long as the treatment was given after the first date of the original policy. Generally speaking, the limits of coverage should also follow the date of claim. Surprisingly, not all insurance companies offer these very important features consistant with claims made principles.

If you have an occurrence policy, coverages and premiums are locked in for any policy year you are insured. Given a similar premium for occurrence policies this may represent a price advantage over claims made policies, but you may not be getting the benefits you need in the future provided under claims made coverages.

Should you terminate a claims made policy "tail coverages" are needed in order to give you protection for claims which may be brought against you later on. Is there a guarantee on your claims made policy for no time restrictions? When pricing claims made coverages, don't be mislead by the lower going in first year rate. The real cost of your coverage when adding tail coverages is closer to 10% to 20% over the mature premium rate (generally shown as the fifth year rate) for each year you were insured. Ask how your "tail coverages" are computed. In the event of disability, death or retirement, does your policy provide "tail coverages" without any additional outlay of premium?

Additional coverages not often included with many policies could create difficulties. For example, should a claim be brought against one of your employees or a physician filling in for you, are they covered?

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J. Ray Langdon, M.D.

1924 - 1981

Joseph Ray Langdon, known to all as "J Ray", died at home in Anchorage September 3, 1981. He had been ill for over a year with carcinoma of the colon, working until a few weeks before his death.

Born in Pueblo, Colorado, he was severely burned on the neck, chest and arms in a fire in a laboratory there at a summer job during medical school. He amazed his doctors, his employer and the workmen's compensation insurer by insisting upon returning to medical school at St. Louis University much sooner than expected.

After internship back in Pueblo he went on to training in psychiatry in Indianapolis and Medfield, Massachusetts, spending two years on the psychiatric service at Lackland Air Force Base in Texas in between. He was board certified.

Dr. Langdon was attracted to Alaska in 1958 by serving as medical director for two years at Morningside Hospital, Portland, a hospital exclusively for the Alaska mentally ill. He did not last long at this first position here as assistant director for the mental health division of the Alaska Department of Health and Welfare, for he saw that things were wrong and told Commissioner Winsor, Governor Egan and everone else so. He was fired.

There were no psychiatrists in practice regularly in Alaska in 1960. J Ray became the first, eventually establishing The Langdon Clinic. He engaged talented colleagues to assist him, among them psychologists Allan Parker and Jon Burke, reading therapist Troy Sullivan, psychiatrists Aron Wolf, Joseph Bloom, Barry Mendelsohn and James McGuire and many others including the first group of residents in Alaska, rotating from psychiatric training at the University of Washington. The University appointed Dr. Langdon clinical professor of psychiatry in 1980. The reach of the Clinic was far beyond Anchorage. Dr. Langdon and his associates helped establish mental health clinics in many towns in Alaska, among them Fairbanks, Kodiak, Valdez and Homer. Staff members regularly visited them. In Anchorage the Clinic served the public, the courts, and tried to help the state mental hospital, Alaska Psychiatric Institute. As a therapist Dr. Langdon was eclectic, pentrating, warm, witty and above all pragmatic. He was not given to Freudian ruminations. His solid sense of self and family and his easy manner helped uncounted troubled people, including dozens of physicians or their wives, usually at no charge.

The Langdon Clinic was brave enough to run a methadone program from 1968-74 when this seemed to be appropriate for heroin addicts. For their pains the Clinic received much unwarranted criticism from the public, and abuse and low and slow payments from the State.

Dr. Langdon was an excellent administrator. He was a great boss. Those who worked for him were totally devoted to him. Similarly he was a great father to his five children. Regular, wide-ranging postprandial colloquies on politics, history, literature and the nature of things epitomized family life at the Langdons.

Dr. Langdon's leadership in medical association affairs was outstanding. He was perhaps the best president the ASMA ever had (1971-72), visiting every town with a physician in it, some repeatedly, talking to every physician in the state, goading us to action. He established the Association office on a solid base with its first executive secretary. He also served as alternate delegate to the AMA, assisting his friend from Fairbanks, Delegate Joe Ribar, for many years.

J Ray read widely, particularly history. He was utterly unathletic. No one ever saw him run. But he followed television sport avidly. He smoked whenever awake and loved scotch after work. In his decline he took wry delight that he was not succumbing to lung or primary liver disease.

Superb psychiatrist, gadfly to the profession, colleague, friend -- we all miss J Ray.

When medical meetings wound down to idle carping, J Ray could always be heard to "move to adjourn". He himself has now adjourned. The minutes of his fine life will be read again and again. And they will not be corrected.

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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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1981 ASMA Annual Meeting

Glacier Bay, May 1981

ASMA Annual Meeting attendees - waiting for plane at Gustavus Airport. (Photo courtesy of Robert Mallin, M.D.)

After-lecture lecture - Leon Chandler, M.D., James Wilson, M.D., Gordon Deckert, M.D. (Speaker), Mrs. Wilson, James Baldauf, M.D. and Buff Burtis, M.D. (Photo courtesy of William Bowers, M.D.)

Before meeting discussions - George Gates, M.D., Jill Gates, Paul Dittrich, M.D. (Photo courtesy of William Bowers, M.D.)

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Unofficial legislative committee meeting - David McGuire, M.D., David Beal, M.D. and Douglas Smith, M.D. (Photo courtesy of William Bowers, M.D.)

Serious contemplation - Mike James, M.D. (Photo courtesy of William Bowers, M.D.)

Waiting for food - Marge Muzzall, Richard Muzzall, M.D. and Paul Dittrich, M.D. (Photo courtesy of William Bowers, M.D.)

ASMA President - James A Baldauf, M.D. (Photo courtesy of William Bowers, M.D.)

Waiting for food - Butch Chandler, Leon Chandler, M.D. and Marge Dittrich. (Photo courtesy of William Bowers, M.D.)

Three legged race - wives and children. (Photo courtesy of William Bowers, M.D.)

Before meeting - James Baldauf, M.D. and Gloria Park, M.D. (Photo courtesy of William Bowers, M.D.)

Several convention attendees commuted from their boats to meetings by skiffs and rafts. Sailboats pictured above belong to Joseph Shields, M.D., Dave Johnson, M.D. and James Wilson, M.D. Academy of Pediatrics Annual Meeting was held aboard Dave Johnson's boat (center). (Photo courtesy of Frank Comar, Giegy Rep.)

On cruise up Glacier Bay - William Y. Rial, M.D., President-Elect American Medical Association. (Photo courtesy of Martha MacDermaid)

Icy swim to iceberg on cruise up Glacier Bay - Chuck Jurasz, lecturer on whales and marine life in Glacier Bay. (Photo courtesy of William Bowers, M.D.)

Card sharks patiently waiting for bus to Gustavus airport - Buff Burtis, M.D., Jan Kastella, M.D., Bob Billings, M.D. and Lint Moustakis, Parke Davis Rep. (Photo courtesy of William Bowers, M.D.)

Keith Brownsberger and Richard Muzzall waiting for bus. (Photo courtesy of William Bowers, M.D.)

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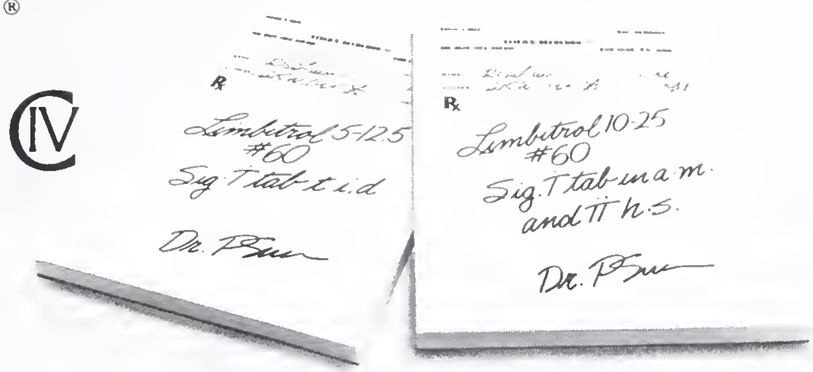

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Most patients with a mood disorder have a mixture of anxiety and depression. One clinician[1] found a correlation of 0.7 in anxiety and depression scores; another[2] has estimated that 7 of 10 nonpsychotic depressed patients are also anxious. For the dual symptomatology of anxious depression, Limbitrol provides dual medication.

More appropriate for the nonpsychotic depressed and anxious patient

Limbitrol contains both amitriptyline, specific for symptoms of depression, and a benzodiazepine, specific for the symptoms of anxiety. Thus it is a better choice than other dual agents for anxious depression that contain a phenothiazine, a class of antipsychotic drugs less specific for anxiety and now generally avoided in nonpsychotic patients.[2,3]

Avoids the risk of tardive dyskinesia carried by the phenothiazine combinations

The causal relationship between the phenothiazines and other extrapyramidal side effects, including tardive dyskinesia, is well established. In contrast, the reported incidence of these adverse reactions with Limbitrol or either of its components is rare.

References: 1. Claghorn J. *Psychosomatics 11* 438-441, Sept-Oct 1970 **2.** Rickels K Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME. New York, Appleton-Century-Crofts, 1977, p 316 **3.** Baldessarini RJ, Tarsy D Tardive dyskinesia, in *Psychopharmacology: A Generation of Progress*, edited by Lipton MA, DiMascio A, Killam KF New York, Raven Press, 1978, p 999

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline. symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives Concomitant use with other psychotropic drugs has not been evaluated sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period. Not recommended in children under 12 In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment

Dosage: Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly

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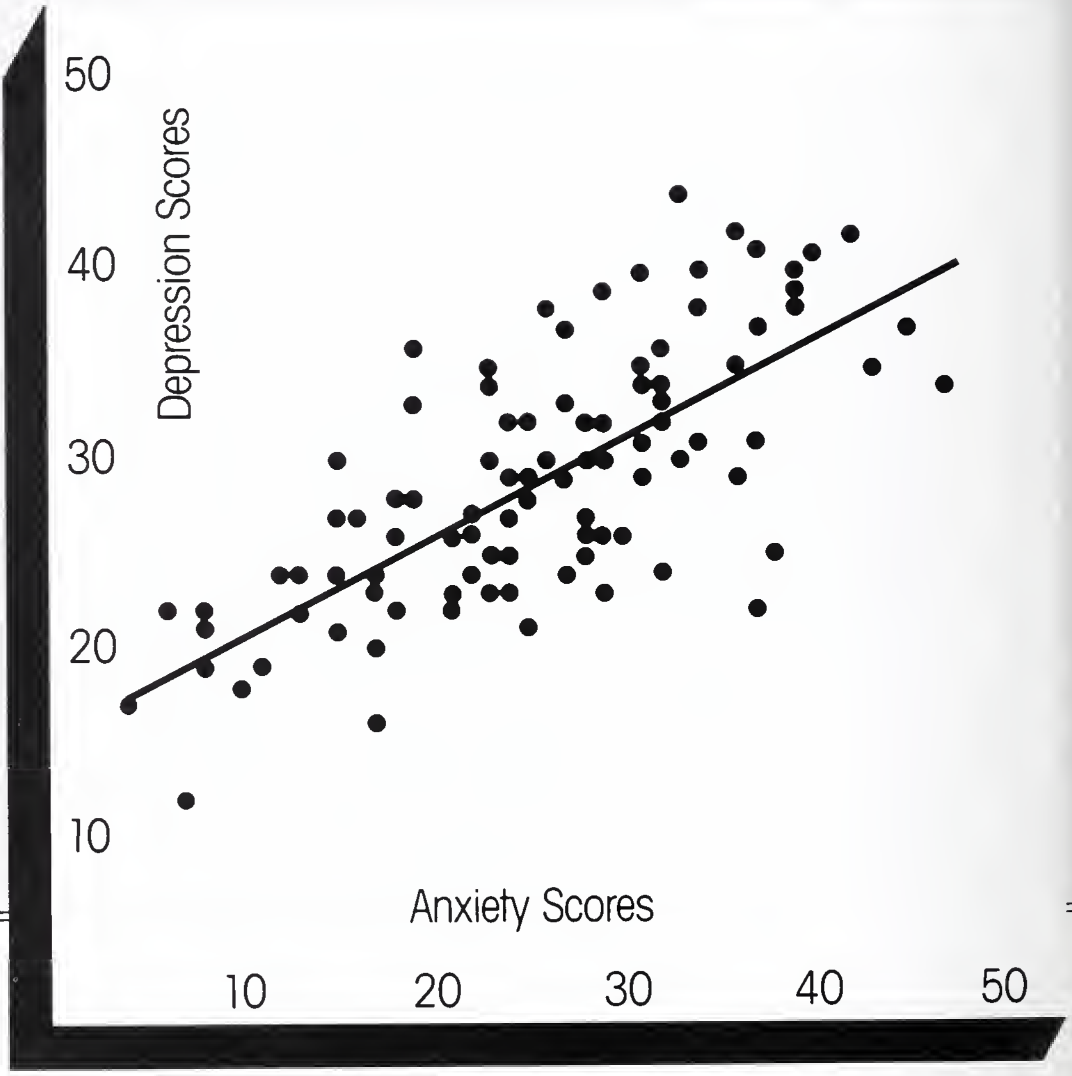

The graph illustrates the close correlation between depression and anxiety derived through the MMPI and the Taylor Manifest Anxiety Scale in 100 nonpsychotic psychiatric patients. The Coefficient of Correlation is 0.7. As depression increased, so did the anxiety levels.
—Adapted from Cloghorn J[1]

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1. Cloghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970

Please see summary of product information on inside cover.

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